



# Community-Based Mangrove Management in the Philippines: Experience and Challenges of Forest Governance in the Context of Changing Climate

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# Outline

- Philippine mangroves
- Key policies on mangrove management
- Community-based mangrove management approach
- Case studies
- Major issues in community-based mangrove management
- Recommendations to address governance challenges and climate change

# Common mangrove stand types in the Philippines



*Rhizophora* sp. along river



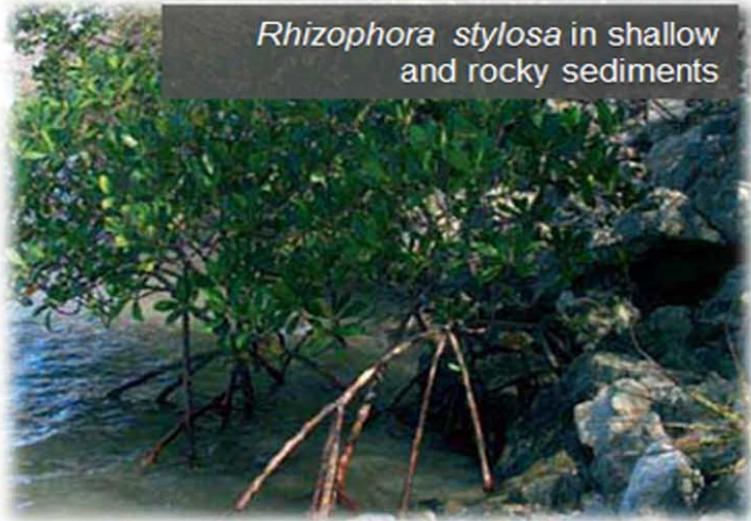
*Avicennia* stand



*Sonneratia* sp. on subtidal sediments



*Rhizophora stylosa* in shallow and rocky sediments



*Nypa fruticans* along brackish water



Mixed trees and thorny bushes at elevated coasts

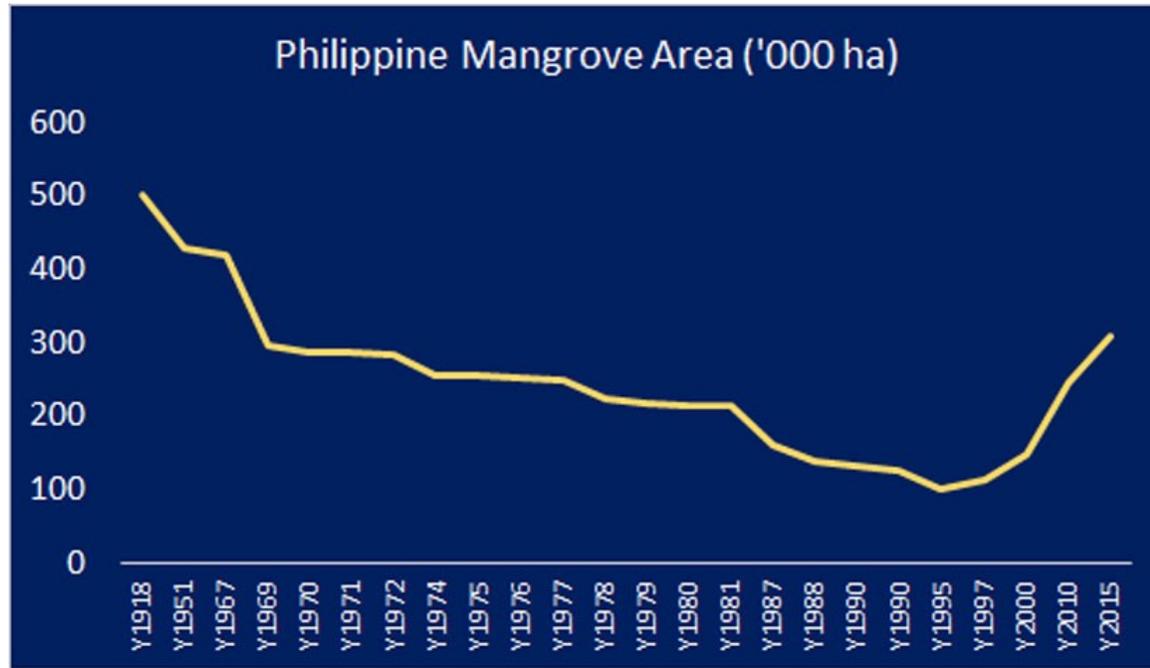


# Floristic Record



There are **24 and 36 species of true and associate mangrove species**, belonging to **7 genera**. The most common are *Rhizophora*, *Bruguiera*, *Ceriops*, *Avicennia*, *Sonneratia*, *Xylocarpus* and *Aegicera*.

# Philippine Mangrove Trend



- From **500,000 ha** in early 1900s to about **310,500 ha** (Brown and Fischer 1920; Chapman 1976; Primavera 2000; FMB 2010).
- **Trend is now improving** with the recognition of biodiversity and ecotourism values and with implementation of community-based forest management

# Mangrove Policies at a Glance...



**Commercial cutting is not allowed** in all mangrove areas of the Philippines

## National Policy:

- **Presidential Proclamation No. 2151 of 1981** whereas mangrove forests are declared as wilderness area.
- **Republic Act 7586** or *National Integrated Protected Areas System Act* (NIPAS of 1992) whereas, all wilderness areas became protected areas.
- **Republic Act 7161** or *Act of Incorporating Certain Sections of the National Revenue Code* in 1991 whereas cutting and selling of mangrove wood is banned;

## Department / Ministry policy:

**DAO 10 (1998):** Guidelines on the establishment and management of **Community-based Forest Management (CBFM)** Project within mangrove areas whereas **Section 3 allows cutting on planted mangroves.**

# Benefits of CBFM

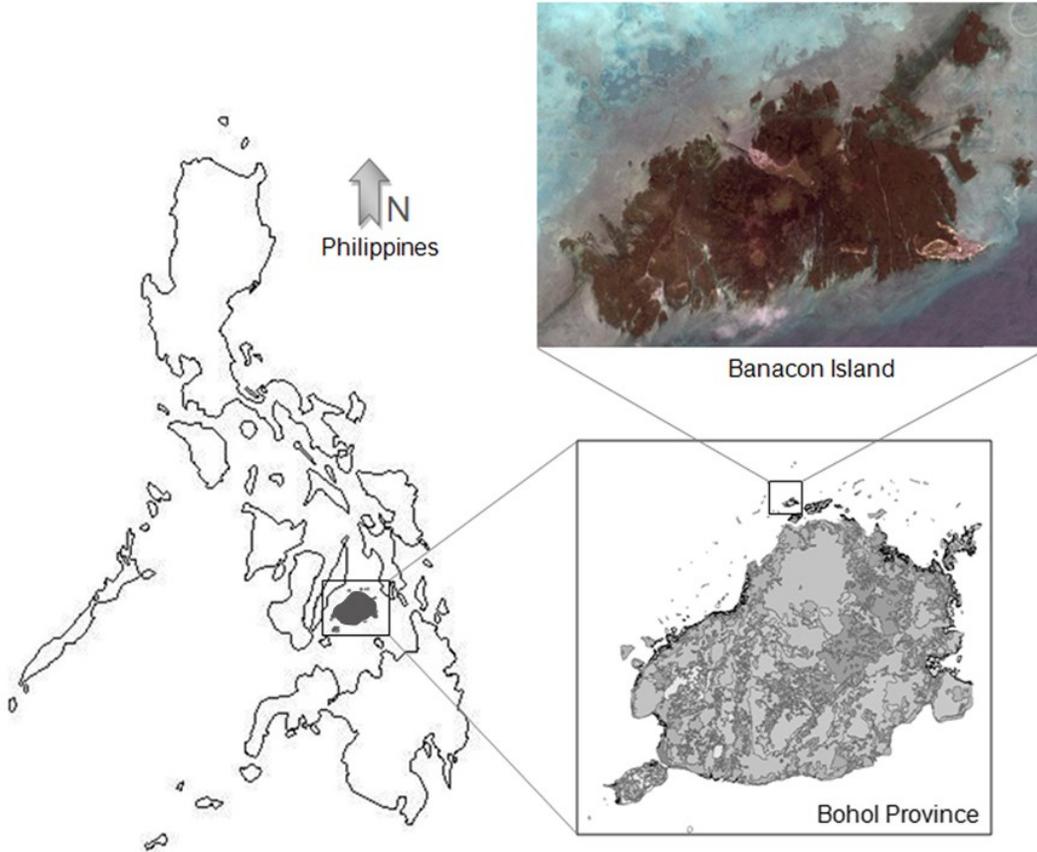
Philippines has 1.6 million ha of forest lands that are under CBFM tenure agreement. Of these, 10.7% of the total forest lands are being managed by 1,900 Peoples Organizations (FMB 2010).

**Roughly 15% of CBFM projects are situated in mangrove forests.**

CBFM provides local communities with:

- Access and occupancy rights on mangrove forests
- Livelihood development projects
- Employment opportunities through reforestation
- Co-benefits of forest conservation such as fuelwood and marine food

# Case 1: Banacon Island, Bohol, Phils.



Location: Bohol Province, Philippines  
10° 03' 30" to 10° 15' 30" N and  
124° 03' 30 to 124° 14' 30" E  
Area: 660 ha (max: 1400 ha)  
Climate: No distinct dry season  
(Mean annual rainfall: 1500mm)

Unique features:

- forms part of *Danajon Double Reef*
- one of the largest mangrove plantations in Asia
- community-initiated mangrove planting

Population: at least 300 households

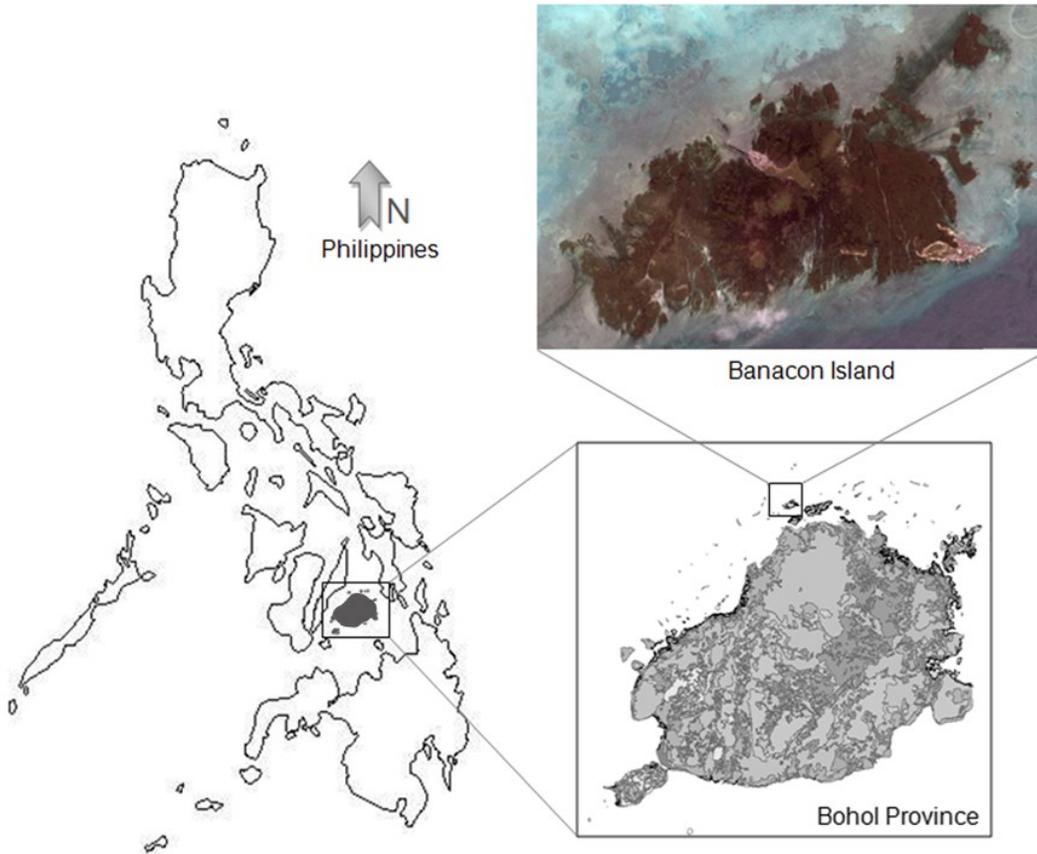
Major livelihoods: fishing, seaweed farming and shrimp catching





Banacon Island. The ultimate goals of the Kanepackage CSR project are to help restore the degraded mangrove areas by planting mangroves, to help mitigate the effects of global threat from climate change and sea level rise, and to apply for **carbon credits certification**.

# Case 2: Palompon, Leyte, Phils.



Location: Bohol Province, Philippines  
10° 03' 30" to 10° 15' 30" N and  
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Area: 660 ha (max: 1400 ha)  
Climate: No distinct dry season  
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## DISASTER RECOVERY

# A town saved by mangroves

Palompon could've been any other devastated town after Super Typhoon Haiyan ravaged the area, but this town was spared; all thanks to their mangroves

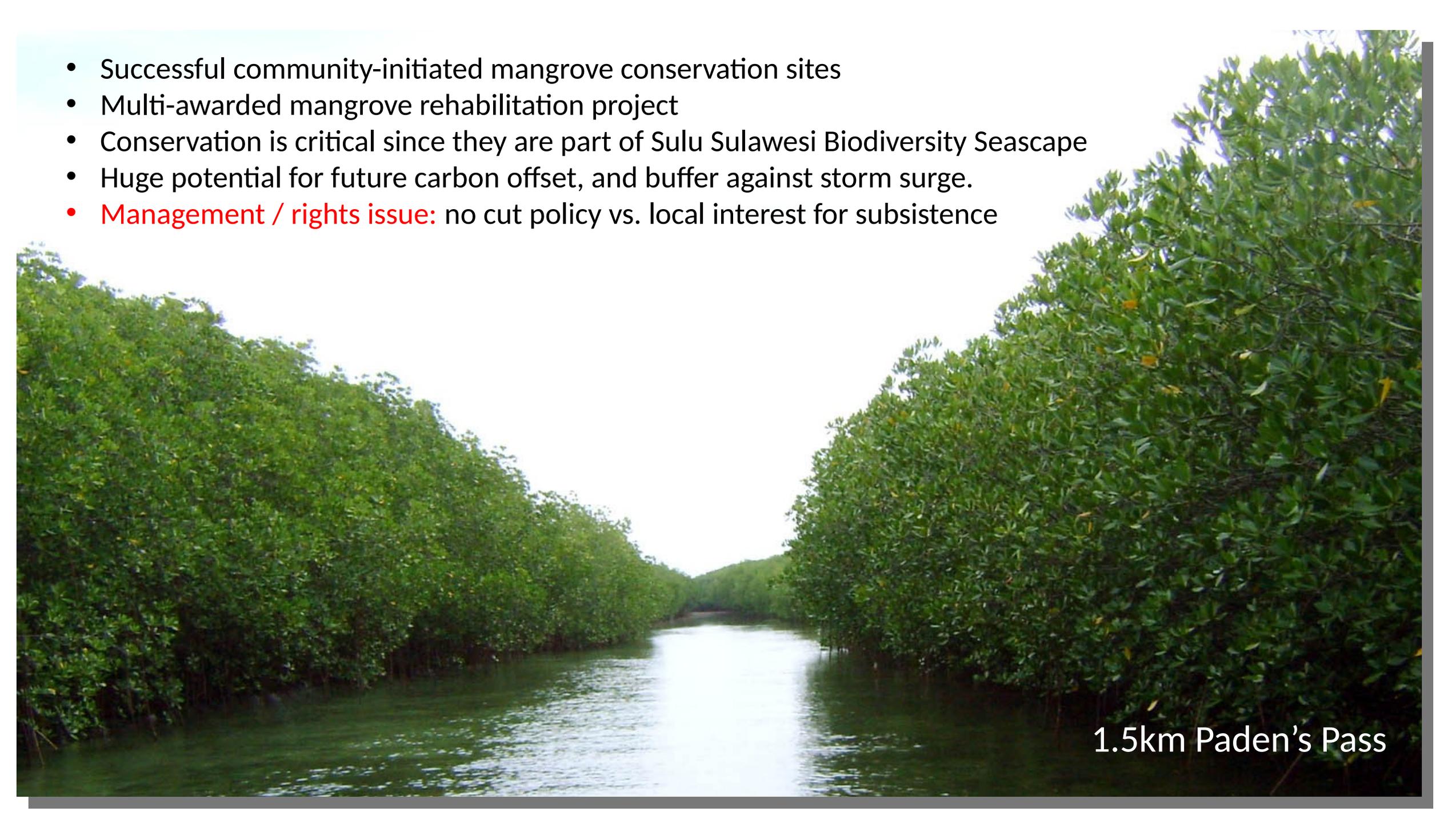
The town's highest structures in the town's shoreline were only 2 stories (approximately 6.6 meters) tall.

A mangrove plantation, located in an island a few hundred meters from the shoreline, buffered the full impact of the waves.

"The mangroves saved us," Oñate said.



- Successful community-initiated mangrove conservation sites
- Multi-awarded mangrove rehabilitation project
- Conservation is critical since they are part of Sulu Sulawesi Biodiversity Seascape
- Huge potential for future carbon offset, and buffer against storm surge.
- **Management / rights issue:** no cut policy vs. local interest for subsistence



1.5km Paden's Pass

# Major Issues in CBFM

## 1. Elusive tenure rights

While Executive Order 263 or *Community Based Forest Management Agreement* and DAO 123 (1989) provides local communities with limited timber utilization rights over the plantations (including mangroves) they established, they were however superseded by a higher-level policy i.e. Republic Act 7161 which oppositely prohibits cutting on all mangrove species.

Given this, many local communities are disillusioned to participate in reforestation projects since they cannot realize the financial benefits from the trees they planted.

Illegal cutting or timber poaching remain as a problem. Lack of utilization plans resulted to grave degradation and deforestation of natural and planted mangroves.



Banacon and Jagoliao Island, Bohol Philippines - 2013

## 2. Insufficient alternative livelihoods

As seen in the case of Leyte, the low survival rate of plantations was very much linked to the limited role of local community in merely providing labor during field planting. Local people are not involved in the maintenance of plantations.

No initiative yet to develop less-extractive and non-wood alternative livelihood means such as tourism enterprise (eg. conference/seminar and training services, and boat ride tour) and handicrafts-making.

Incentive-based conservation projects are yet to be developed. In this regard, blue carbon off-set project should be explored.



### **3. Wrong motivation for participation in reforestation**

Local community sees their participation as an opportunity to expand their claims over the open intertidal spaces they planted.

Local communities are compelled to plant because the government requires them, and not based on willingness and appreciation of the importance of mangrove establishment.

Reforestation also competes with already productive livelihoods since plantation sites are placed in areas (particularly seagrass beds) where the local community catch shrimp, crabs and fish.



Bohol, Philippines 2013

## 4. Poor ecological considerations in doing reforestation

Reforestation by convenience using *Rhizophora* spp. gained poor ecological values.

Mortality and poor growth performance of *Rhizophora* seedlings was linked to their poor adaptive capacity on site conditions (eg. sediment quality, and exposure to wind and tide) of their non-natural habitat.

**Need to comply with government targets for reforestation.**

Habitat degradation since natural seagrass beds and tidal mudflats ecosystems were preferred as plantation sites rather than the abandoned and degraded aquaculture ponds that needed rehabilitation.

## 5. Poor coastal land use zone planning and management

Without proper demarcation of the protection and production zones, the local community tends to either over-protect or over-utilize mangroves, hence prompting conflicts between their desire to protect and needs to utilize mangrove resources.

Forest land use plans (indicating the land use capabilities / suitability) are yet to be institutionalized or reflected into local government development plans.

Local climate change action plans (LCCAP) are also yet to be formulated. Need to capitalize on mangrove roles in carbon sequestration and storm surge buffer, to make its conservation as a priority of the local government. **This demands serious awareness / IEC campaigns.**

## Lessons and Recommendation

As seen in the case of Banacon Island, community-initiated reforestation is likely if the local community has deeper appreciation of mangrove management vis-a-vis the capacity of mangroves to provide them goods and services in meeting their needs.

In the case of Palompon in Leyte, sustained technical and funding support is needed to ensure the success of community-managed mangrove rehabilitation projects.

Policy overlaps on mangrove utilization rights need to be carefully reviewed and addressed. **A national policy forum may be helpful.**

Need to relieve pressure and dependency on mangrove for wood, and shift the focus on co-benefits. For example: blue carbon offset project, community-based tourism enterprise and cottage-based industries.

There's a **need for environmental champions** to push mangrove conservation through proper coastal land use planning.

# Acknowledgement:

International Tropical Timber Organization (ITTO)  
International Society for Mangrove Ecosystems (ISME)  
Ministry of Environment and Forestry of Indonesia

# Thank you.

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