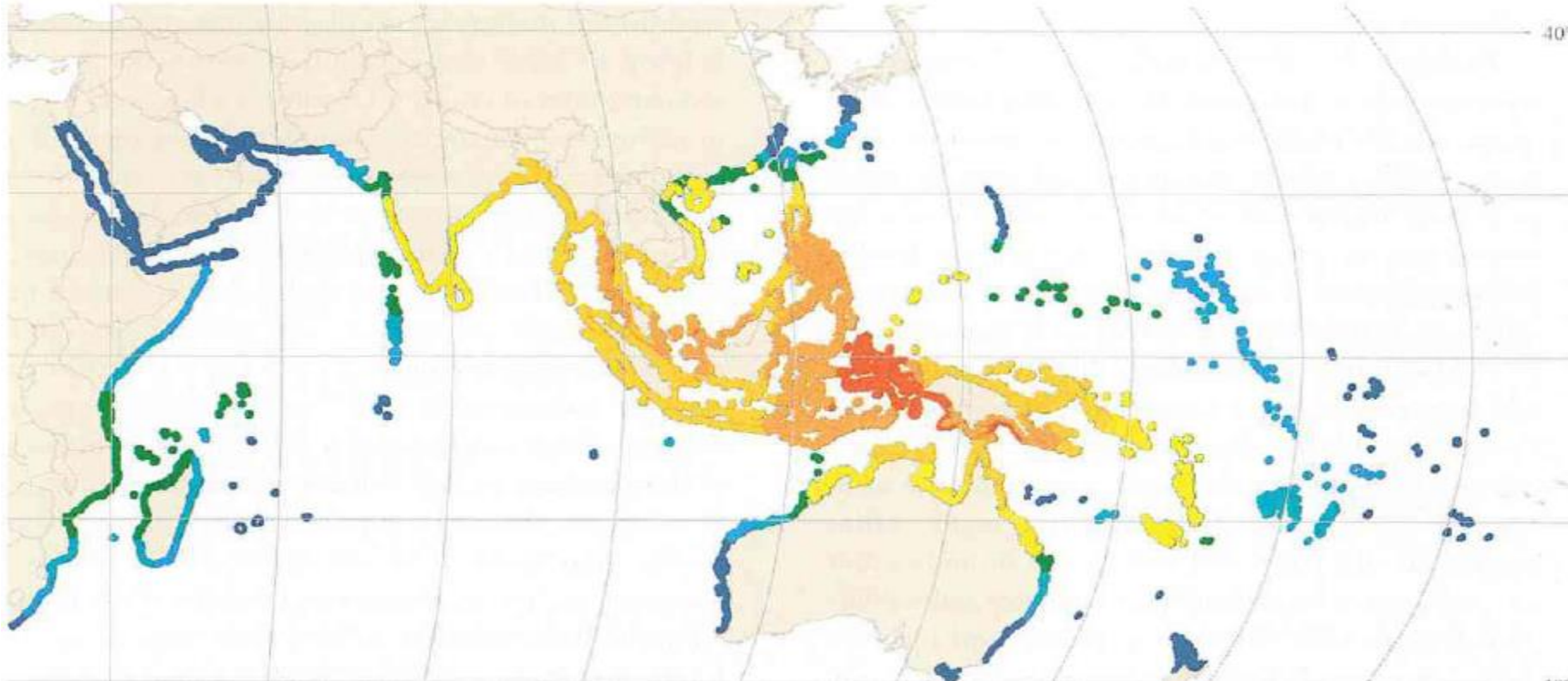


Learning Deltas Asia Initiative LDAI

Government Strategy on Mangrove Forest Management and Conservation in Ayeyarwady Delta



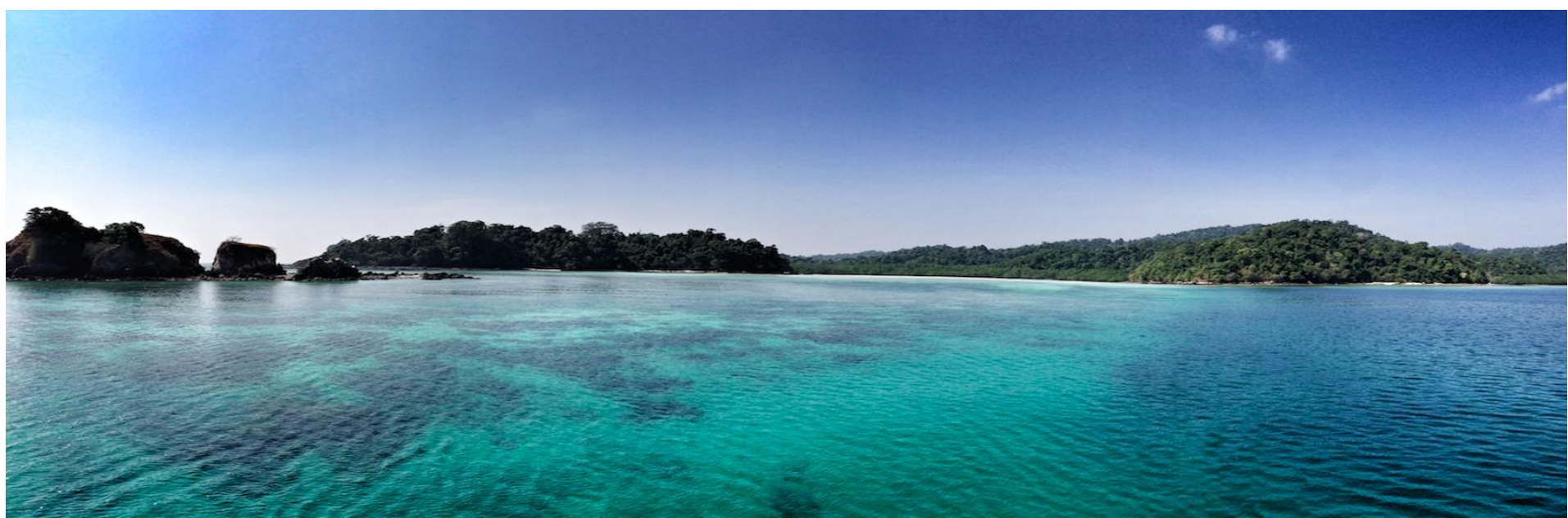
Forest Department

Ministry of Natural Resources and Environmental Conservation

June 1, 2017

Presentation Outlines

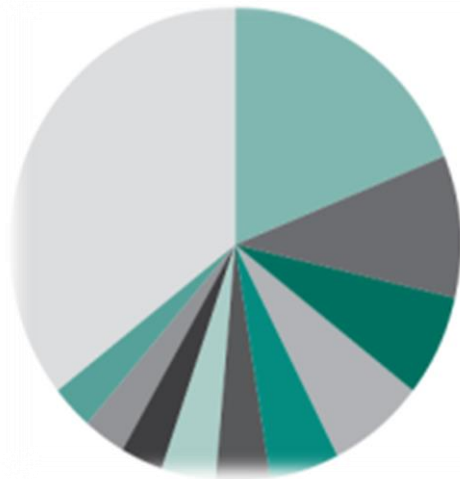
- Introduction
- Policies and Legal Frameworks
- Key Issues in Mangroves of the Ayeyarwady Delta
- Conservation and Management
- Initiatives to Achieve International Commitments
- International Collaboration
- Ways Forward



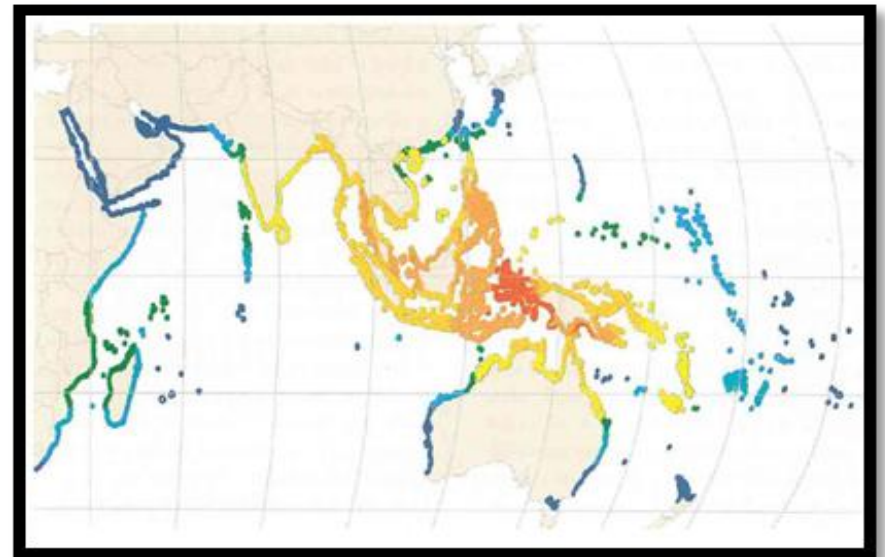
Mangroves in Myanmar

Seventh/Eighth largest extent of mangroves worldwide and third in the ASEAN Region

- 502,911 hectares/1,242,190 acres along 2832 km coastline
- 34 true mangrove species
- 148 true plus associate mangrove species



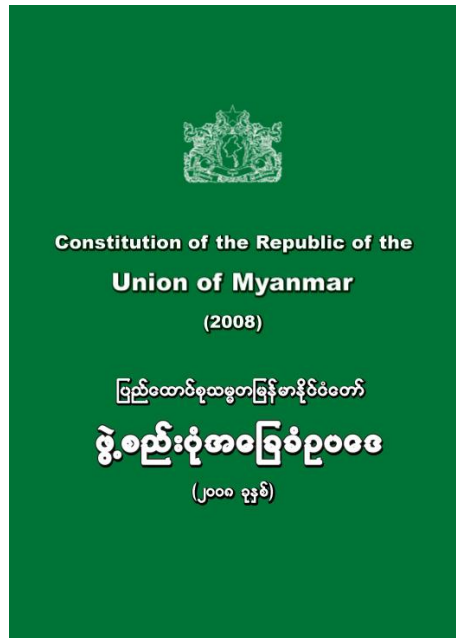
Indonesia	19%
Australia	10%
Brazil	7%
Nigeria	7%
Mexico	5%
Malaysia	4%
Cuba	4%
Myanmar	3%
Bangladesh	3%
India	3%
Others	35%



World mangrove atlas (2010)/The World's Mangroves (2007)/Mangrove Guidebook for Southeast Asia (2006)

Legal Frameworks that cover mangrove conservation and management

State Constitution (2008)



- Article 45: The **state** shall **protect natural environment** of the country
- Article 390: It shall be the **duty of every citizen** of Myanmar to **protect the natural environment**



Legal Frameworks that cover mangrove conservation and management

➤ Forest Policy (1995)

– PROTECTION

– SUSTAINABILITY

– BASIC NEEDS

– EFFICIENCY

– PARTICIPATION

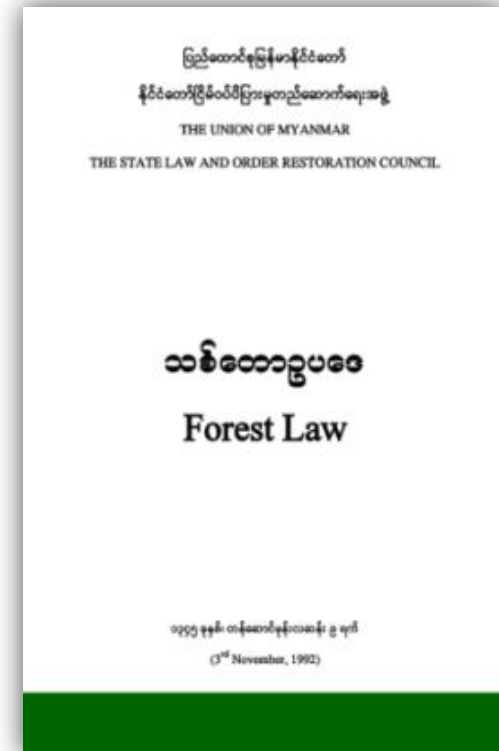
– PUBLIC AWARENESS

➤ Forest Law (1992)

➤ Forest Rules (1995)

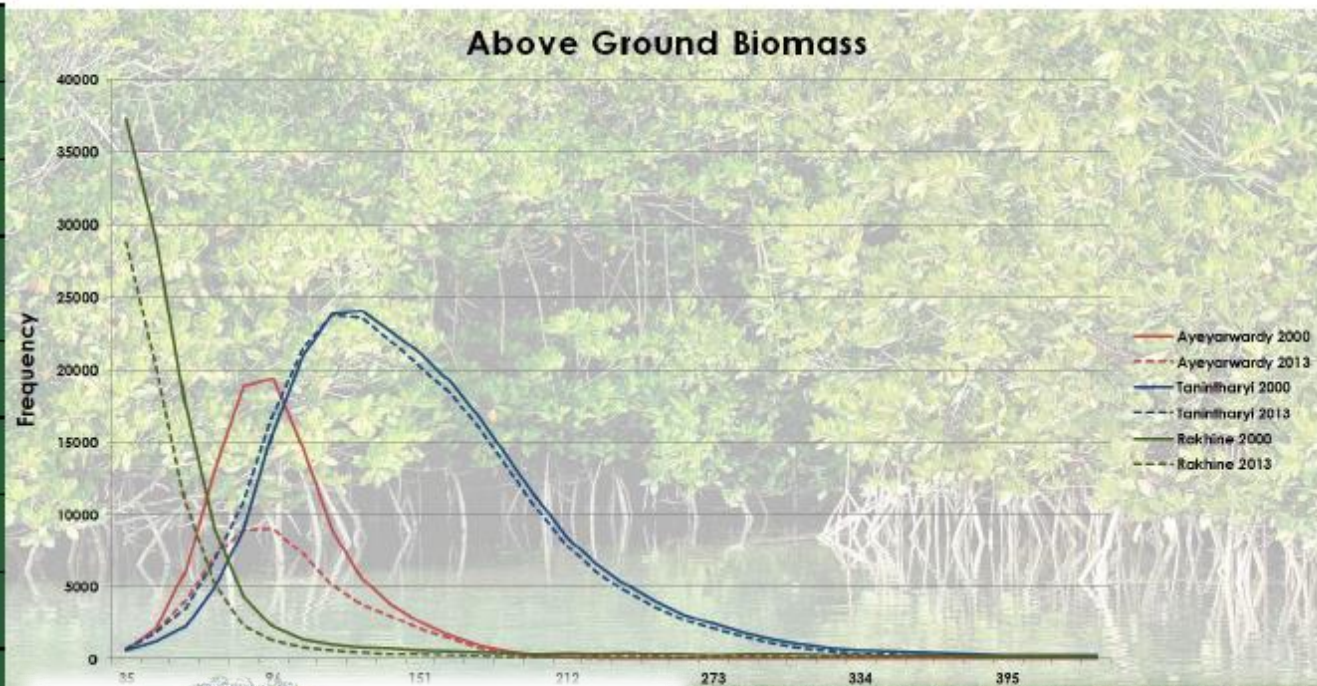
➤ Protection of Wildlife & Wild Plants & Conservation of Natural Areas Law (1994)

➤ Protection of Wildlife & Wild Plants & Conservation of Natural Areas Rules (2002)



Trend of mangroves in three main tracts of Myanmar (NASA, May 2014)

Rakhine	Km ²
2000	1734
2013	1470
Projected 2030	688
Ayeyarwardy	Km ²
2000	818
2013	462
Projected 2030	130
Tanintharyi	Km ²
2000	2075
2013	2040
Projected 2030	1778



21 8 2006

Major Issues on Mangrove Conservation and Management

Region	Remaining Percentage in 2030
Western Coastline	40 %
Ayeyarwady Delta	16 %
Southern Coastline	86 %
Total	56 %

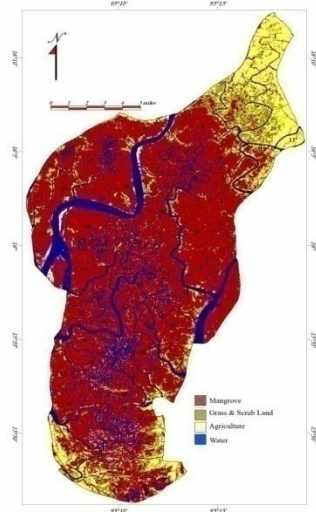
- Village settlement
- Rice fields
- Fuel woods
- Charcoal production
- Shrimp ponds



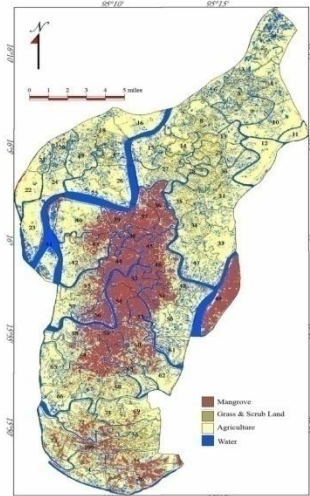
Mangrove Cover Change in the Ayeyarwady Delta

- Seriously degraded
- Highest Populated Region in Myanmar
- Frequent Migration, Unstable settlement
- About 80 % landuse change already, mostly to rice cultivation

Landcover Map of Kadonkani R.F (1990)



Landcover Map of Kadonkani R.F (2007)



Mangrove Cover Change in the Ayeyarwady Delta of Myanmar

- One of the most Populated Region
- Even tigers inhabited in the past

1990 Mangrove Cover in the Ayeyarwady

Current status of Mangrove Cover in the Ayeyarwady



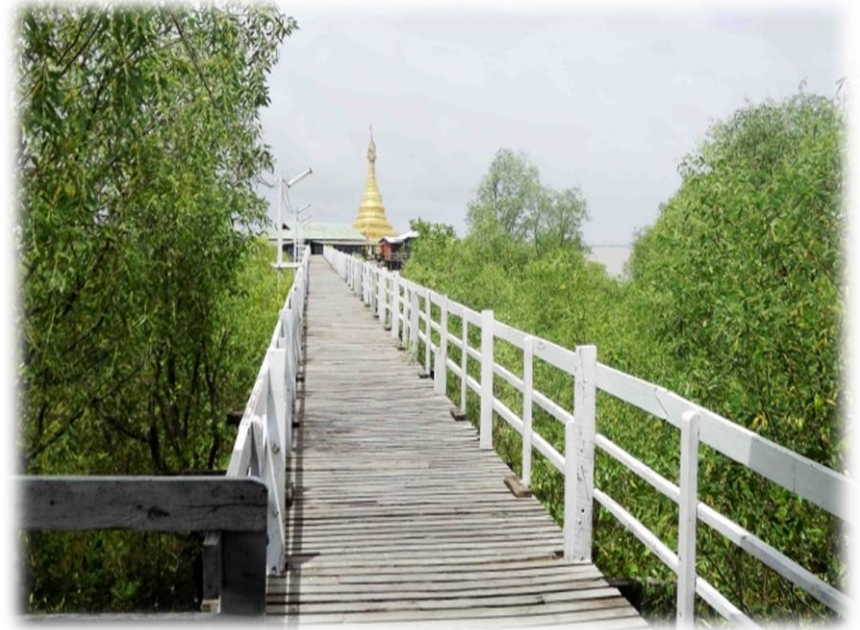
Myanmar's Experiences on Natural Disaster in Ayeyarwady Delta

Increasing People awareness on the value of mangroves
and more protection in progress

Mangroves are said to have saved thousands of people lives during the Cyclone Nargis in 2008



Before Cyclone 2008



Current condition with mangroves

Natural Disasters: Cyclone Nargis, 2008

Radius of storm track

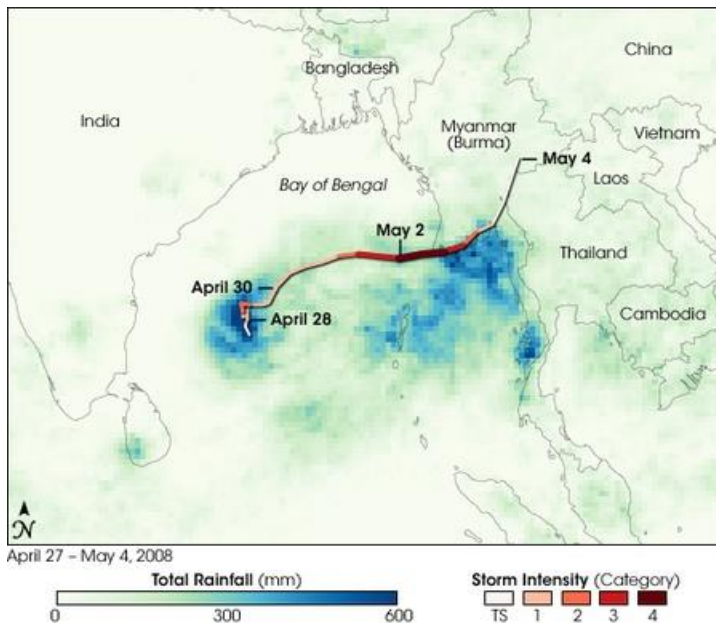
250 miles

Maximum wind speed

(150 mph)

Fatalities

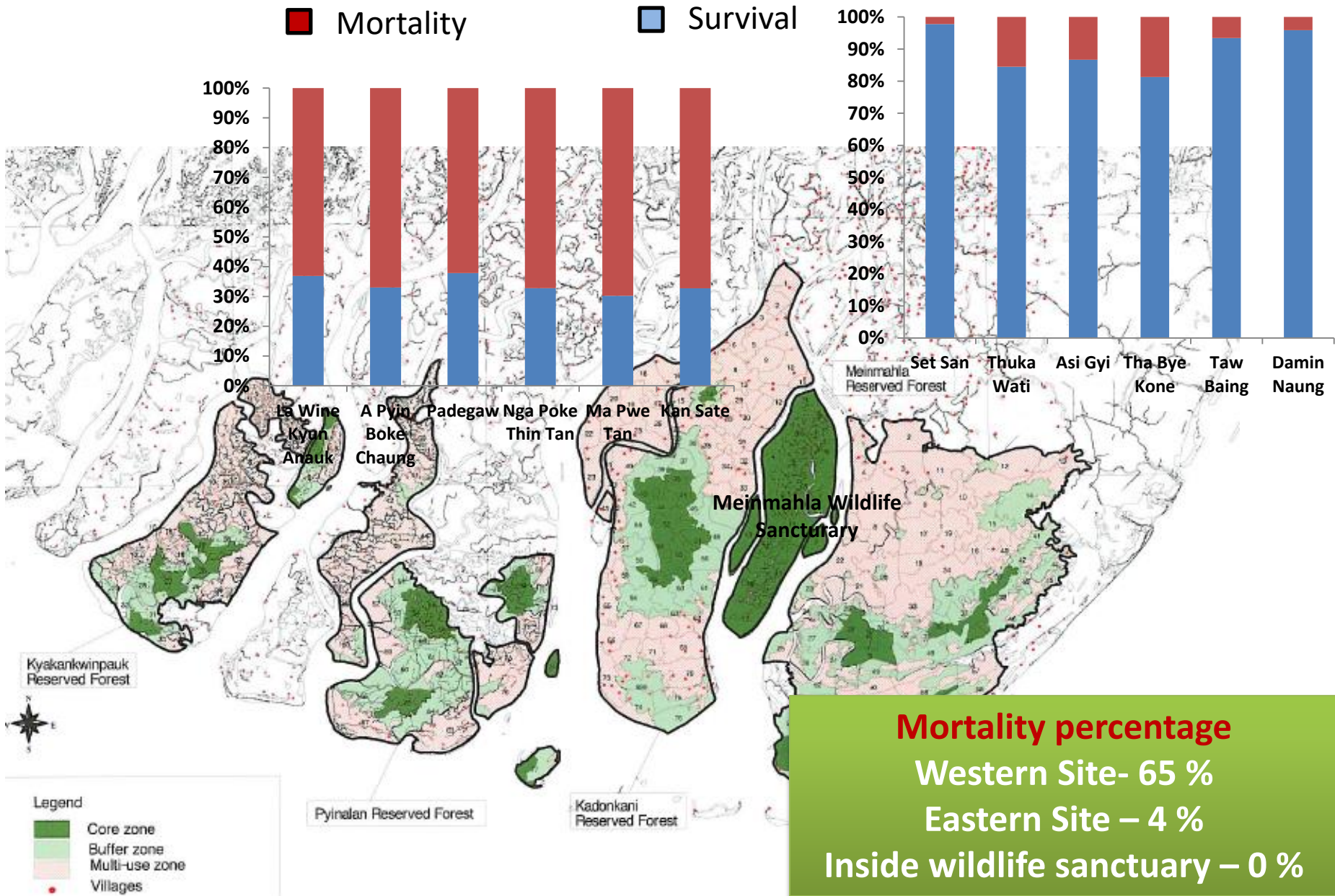
at least 134,000 (dead or missing)



Source: TCG report



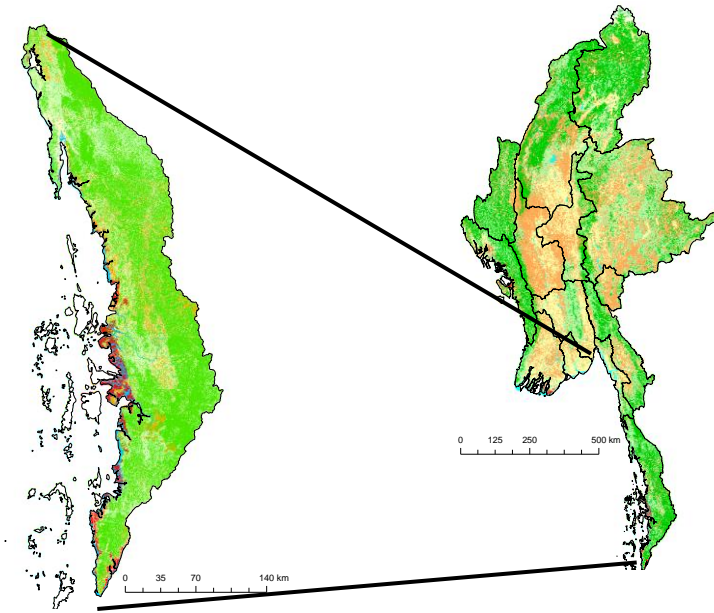
A true story left among the public about the National Park!



Conservation and Management

Protection Status

- Since 1896, mangroves managed as Protective Public Forests/ Reserved Forests
- In Ayeyarwady, (8) Reserved Forests with an areal extent of (33,4917) acres



Mergui/Myeik Archipelago



Constitution of Protected Area System (PAS)

No	State/ Region	Number of Protected Area	Area of extent (Acre)
1.	Ayeyarwady	2	33, 993.60
2.	Tanintharyi	2	62, 777.60
3.	Rakhine	-	-
		4	96, 771.2

Rehabilitation and Restoration Status

Plantations by Forest Department in Ayeyarwady Delta Since 1981 until 2016-17

No	Planted Area (acres)	Extent of Mangrove Plantation (Acre)
1.	Total	53860
2.	Disturbed	38860
3.	Remaining	15000



Plantations by Participatory Ways

Community Forestry

- Issued in 1995, (9021) acres of CF mangrove plantations until now



Private Plantation (PFM)

- Issued in 2006, (2635) acres of private plantation until now

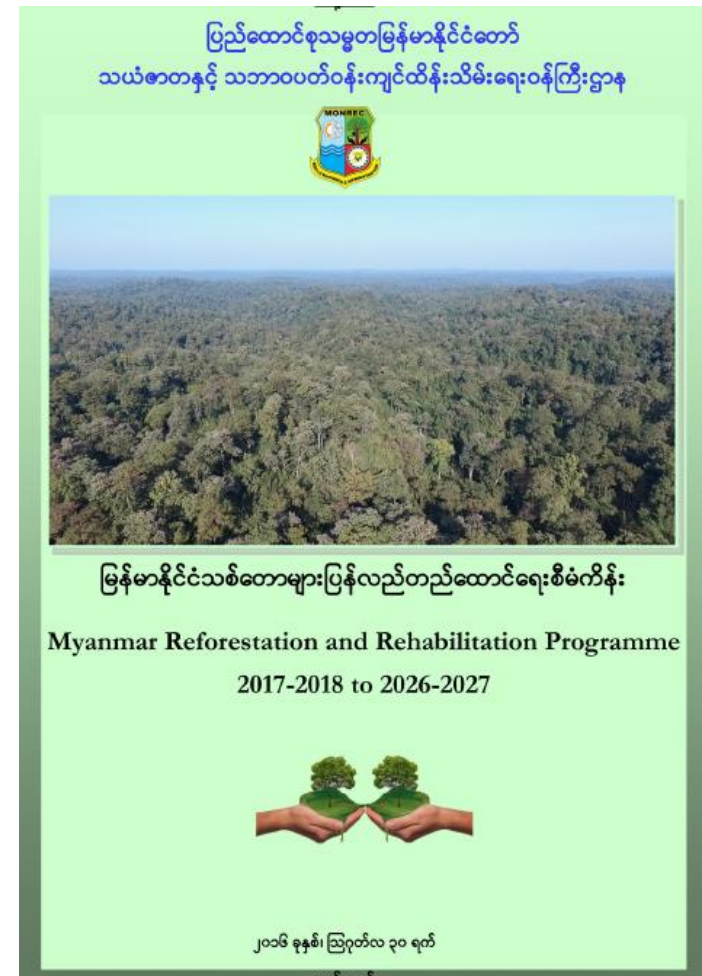


Special Restoration Measures

Myanmar Reforestation and Rehabilitation Programme 2017-18 to 2026-27

- Support to increase mangrove cover status

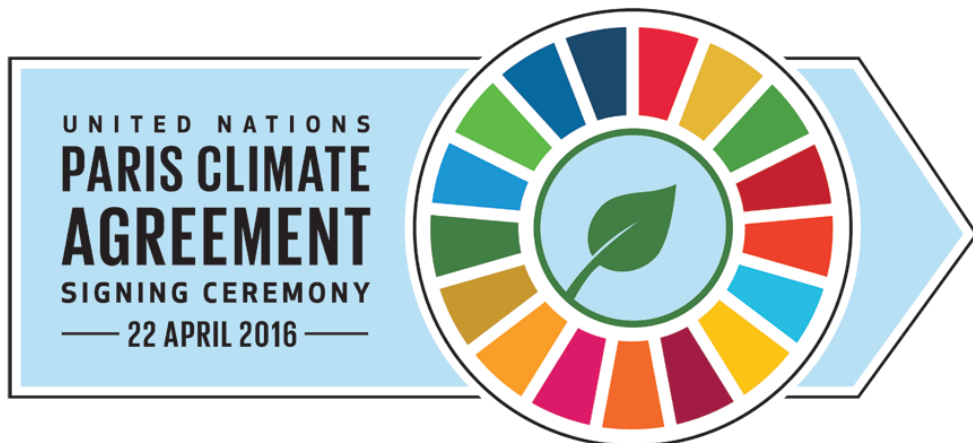
No	State/ Region	Planned to Establish by MRRP
1.	Ayeyarwady	28000
2.	Tanintharyi	460
3.	Rakhine	1230
		29690



International Commitment in relation to Mangroves



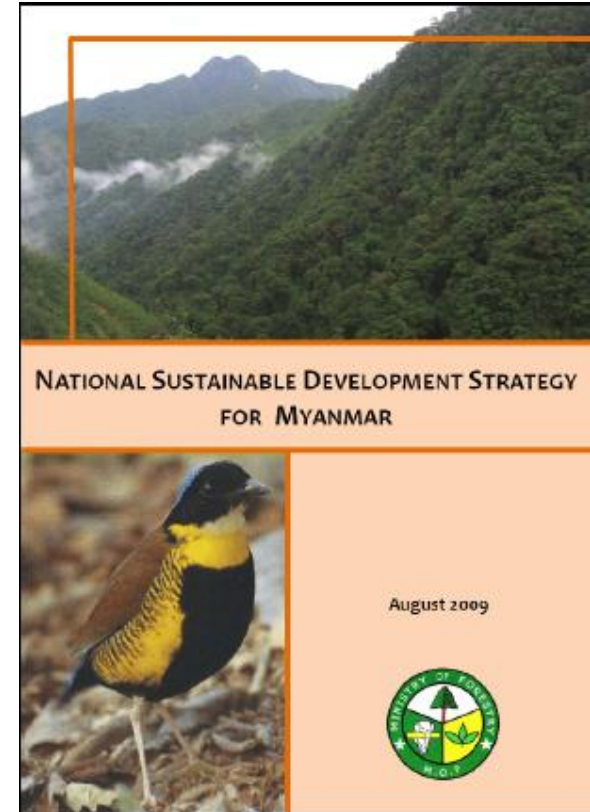
- **SDG**
- **Paris Agreement**
- Aichi Targets
- Myanmar Agenda 21
- REDD+



Supporting Activities to SDG 14 - Life on Ocean



CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT



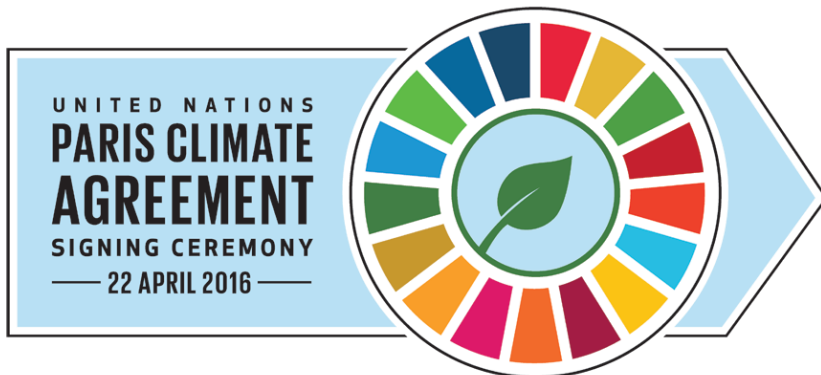
3.1.6 Sustainable Management of Coastal, Marine and Island Ecosystems (Environmental perspective)

International Commitments

Paris Agreement on 22 April 2016 in New York

By 2030, NDC – Nationally Determined Contribution

- Myanmar's Permanent Forest Estate is to increase Reserved Forests/Protected Public Forests 30 % and Protected area systems 10 % of national total land area



Through International Collaboration, Restoration Activities leading to Disaster Prevention Measures



Impacts of Cyclone Nargis 2008!

- 667 acres for 2014-15
- 2185 acres for 2015-2016
- Two fast growing species (*Avicennia* and *Sonneratia*)



Restoration Activities



Four (700 000 Seeding Capacity) Mangrove Nurseries established



Activity of Mangrove Park Establishment



- ❑ Mangrove Park 900 Acres in Patheingyi University has been established.
- ❑ Establish in progress 500 Acres of Mangrove park in collaboration with Myeik University, Tanintharyi Region, Myanmar



Ways Forward

- ❑ **National Coastal Resources Management Central Committee (NCRMC)** was formed in 2016 recently, led by Vice President
- ❑ A total of 19 members composed of Union Ministers, Permanent Secretaries, Director Generals from Relevant Ministries, Navy Chief and Chief Ministers from Coastal Regions and States



ToR of National Coastal Resources Management Central Committee

- (1) Formulation of policy, strategy, laws, rules and regulation
- (2) Knowledge Management
- (3) Developing ICM
- (4) Extension of Protected Area System
- (5) Biodiversity Conservation, Research and Knowledge Exchange
- (6) To implement International Commitments
- (7) Coastal Resources Research Center
- (8) Controlling Illegal Fishing
- (9) Coastal Management Institutions
- (10) Technical and Financial Support from International Communities



11th Membership in Mangroves for the Future in Indian Ocean Ring



US President Bill Clinton, UN Special Envoy for Tsunami Recovery, acclaimed MFF as one of the most responsive initiatives of the post-tsunami period.



with the vision that **natural infrastructure and strengthening resilience** can protect against future natural disasters.



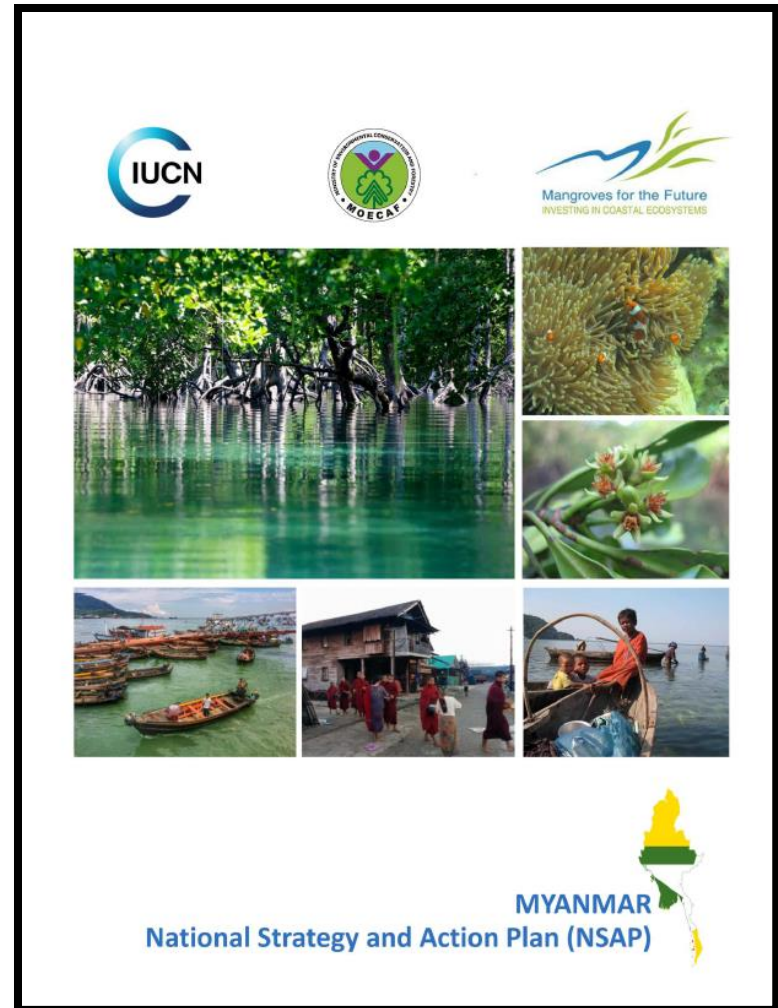
Five Priorities Recommended in National Strategy and Action Plan

Priorities for Intervention

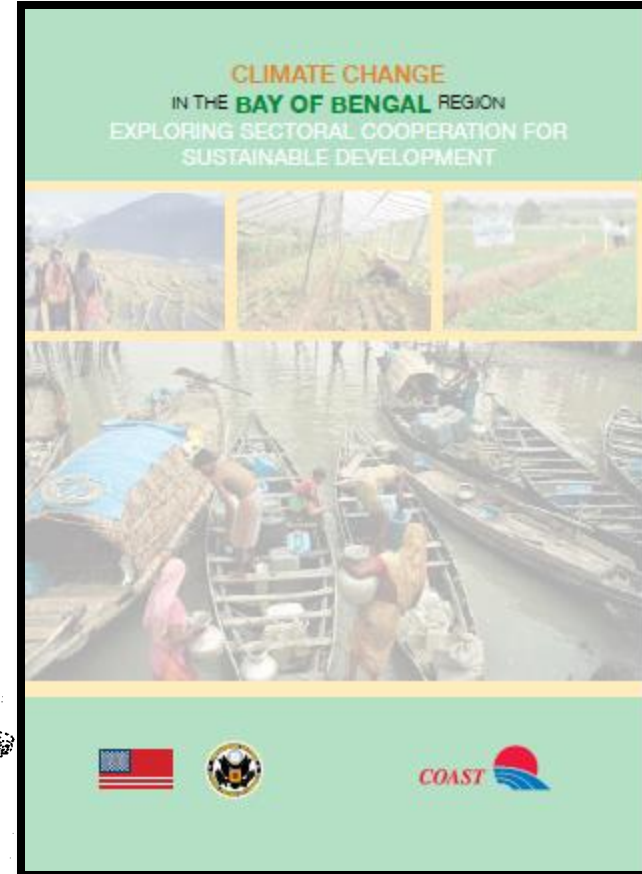
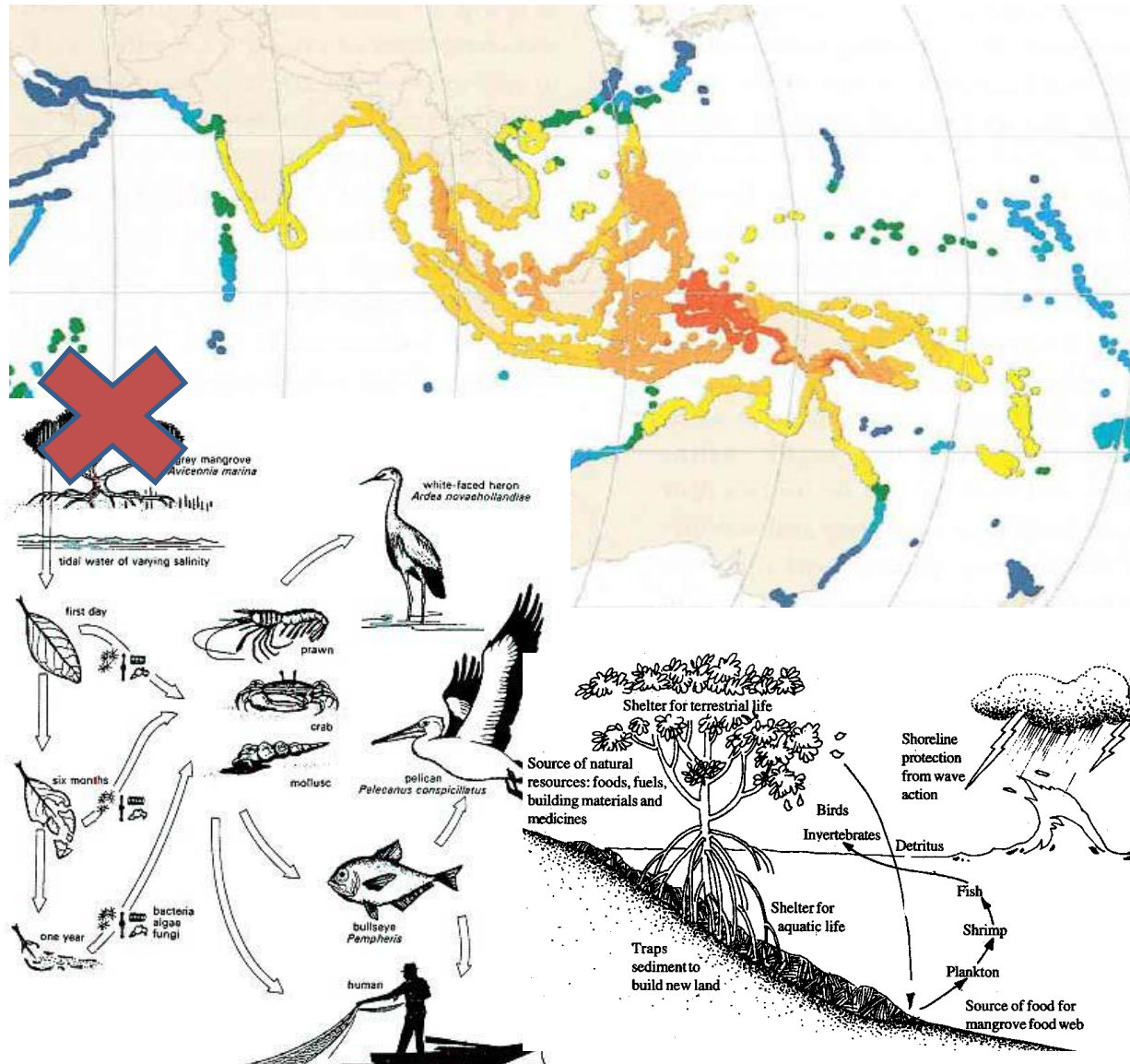
- 1) Environmental Profiling
- 2) Capacity Development
- 3) ICM Policy and Strategy Development
- 4) Civil Society Engagement in Conservation
- 5) Marine Protected Areas

Cross-cutting Issues

- 1) Knowledge Management and Communication
- 2) Climate Change
- 3) Community Resilience
- 4) Gender Equality
- 5) Private Sector Partnership



Recently published: “A coast without mangroves: Lessons on climate change mitigation and coastal protection” Aung and Conor Macdonnell (2016), COAST



A Region Without Mangroves?

Coastal Protection as Disaster Risk Reduction by creating Windbreak along the rivers and seawards in the Ayeyarwady Delta should be prioritized to move forward !

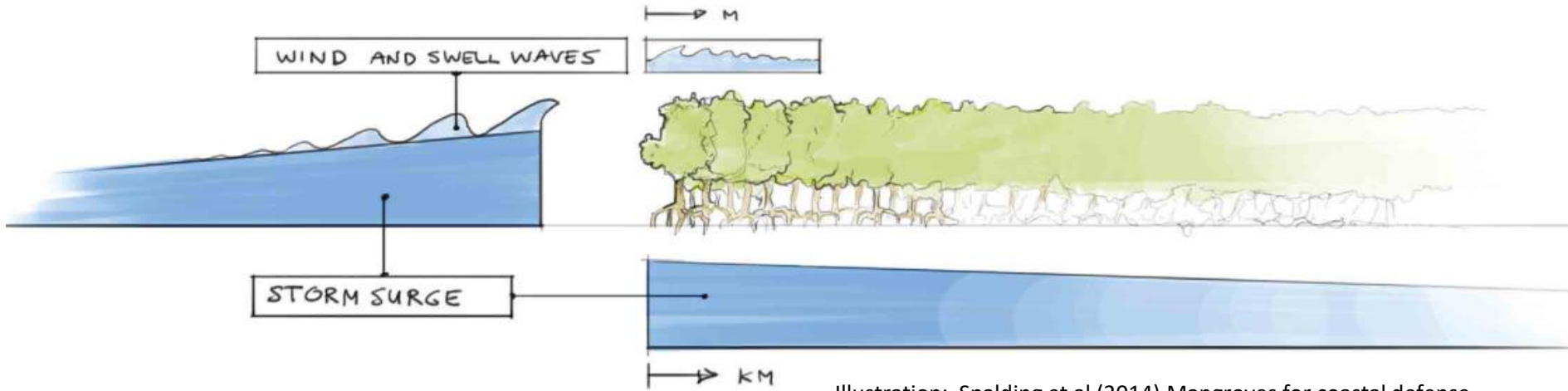


Illustration: Spalding et al (2014) Mangroves for coastal defense



Photo: MAP/Robin Lewis



Photo: WIF

Mangroves in Tanintharyi/Southern Coastline

- Still almost untouched and intact
- Remote Site and less population
- Proposed natural world heritage site



Thank you very much for all your attention!



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