Commonwealth Blue Charter webinar: Unlocking the wealth of mangrove ecosystems

27 July 2020

The Commonwealth

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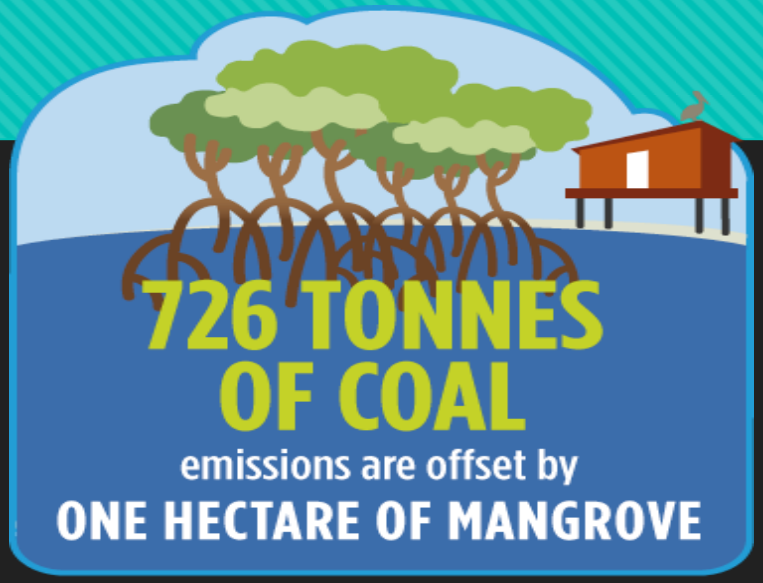
Commonwealth Blue Charter webinar: Unlocking the wealth of mangrove ecosystems

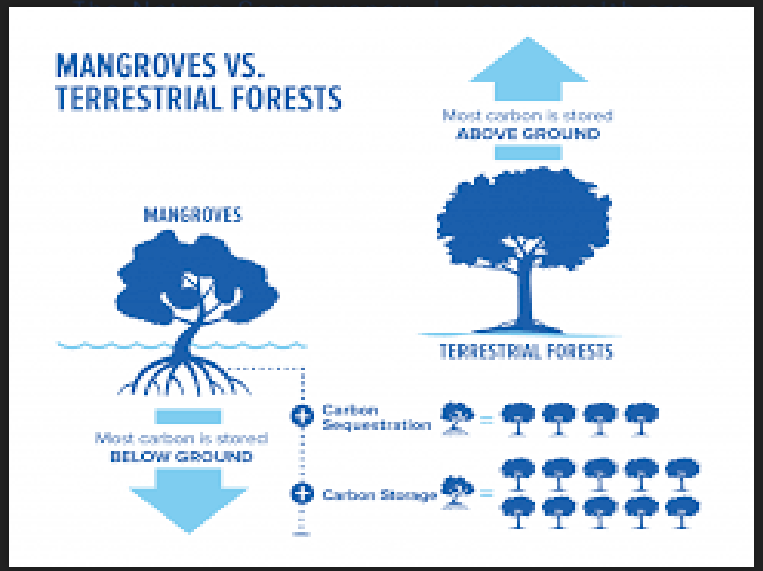
2:00 PM – 2:05 PM	**Opening Remarks** Mr Jeff Ardron, Adviser – Ocean Governance and Project Lead, Commonwealth Blue Charter, Commonwealth Secretariat
2:05 PM – 2:10 PM	**Special Address from the Blue Charter Action Group Champion for Mangrove Ecosystems and Livelihood** Ms Hasanthi Dissanayake, Director General, Ocean Affairs, Environment and Climate Change, Ministry of Foreign Relations, Sri Lanka
2:10 PM – 2:35 PM	**Presentations by the Speakers** Dr Rahanna Juman, Director (Acting), Institute of Marine Affairs, Trinidad and Tobago Dr Judith Okello, Senior Research Scientist, Kenya Marine and Fisheries Research Institute, Ministry of Agriculture, Livestock and Fisheries, Kenya Ms Achini Fernando, Assistant Marine Environment Officer, Marine Environment Protection Authority, Sri Lanka Ms Leah Glass, Global Strategic Lead – Mangrove Conservation, Blue Ventures
2:35 PM – 2:55 PM	**Question & Answers**
2:55 PM – 3:00 PM	**Concluding Remarks**

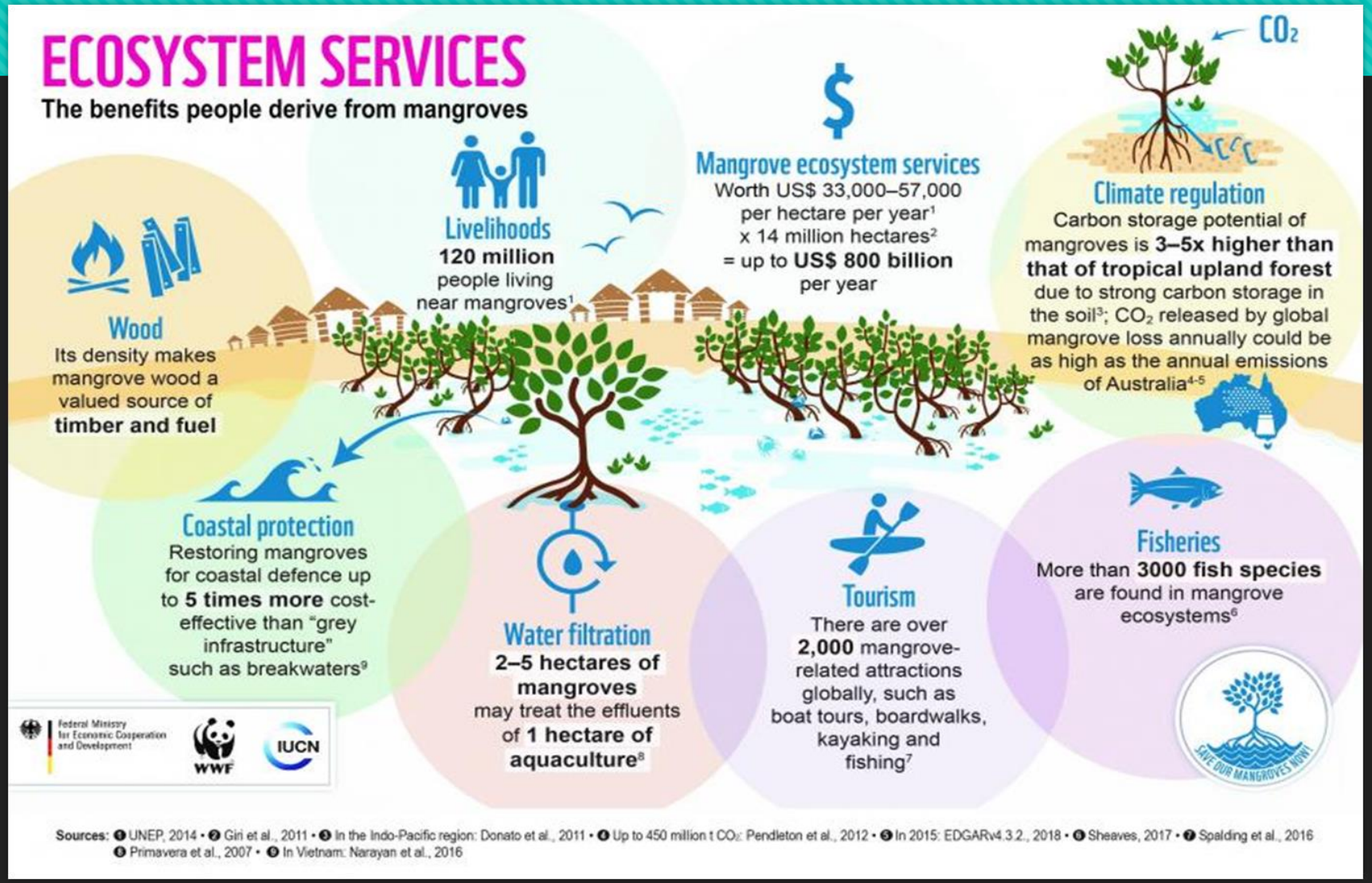
International Day for the Conservation of the Mangrove Ecosystem – JULY 26

- The International Day for the Conservation of the Mangrove Ecosystem, adopted by the General Conference of UNESCO in 2015 and celebrated each year on 26 July.
- It is aimed at raising awareness of the importance of mangrove ecosystems as “a unique, special and vulnerable ecosystem" and to promote solutions for their sustainable management, conservation and uses.

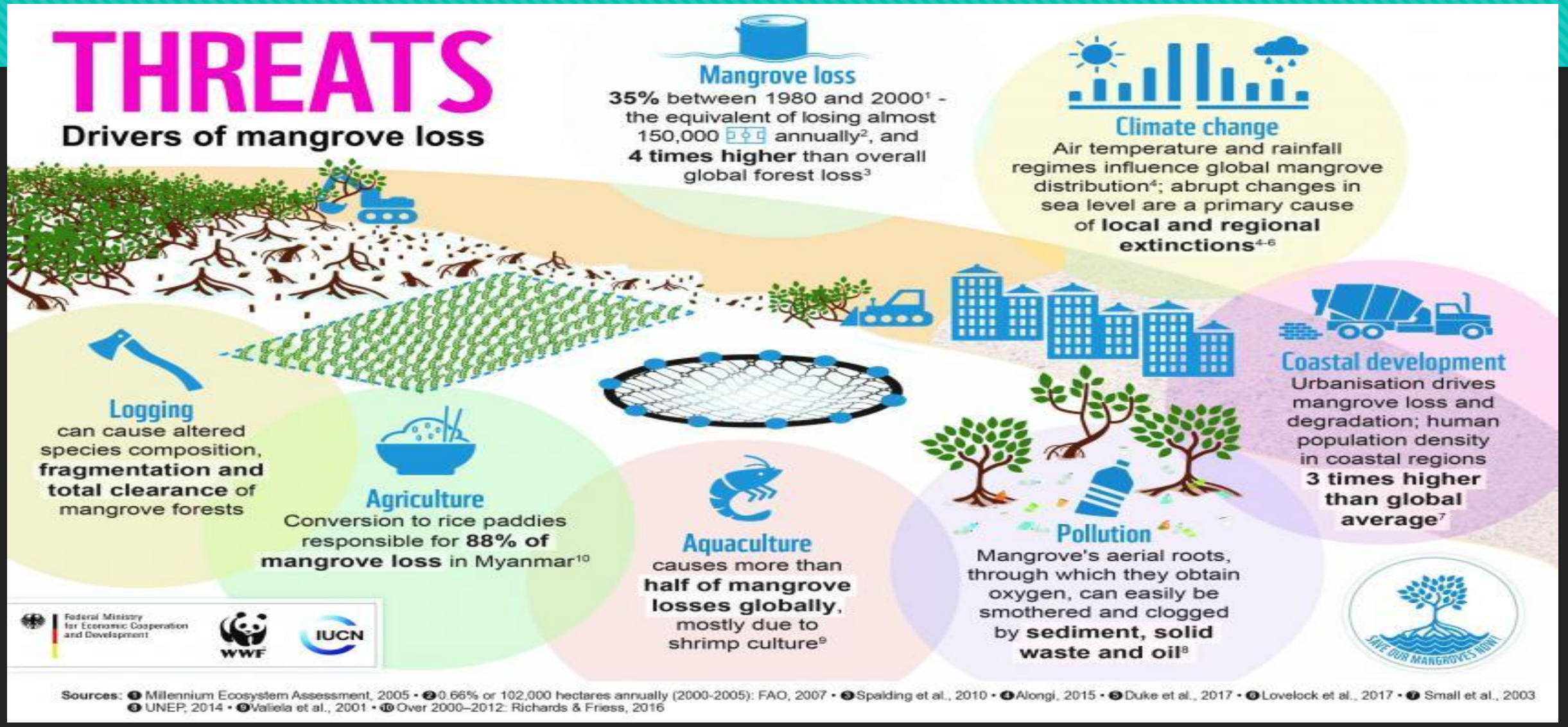
Carbon in take potential of mangrove forests is 3- 5 times higher than tropical upland forests







50% of global mangrove cover has been lost over the last 50 years



The Commonwealth Blue Charter

The Commonwealth Blue Charter is an agreement by all 54 Commonwealth countries to actively co-operate to:

- solve ocean-related problems; and,
- meet commitments for sustainable ocean development.

The process is effected through 10 Action Groups and Mangrove Ecosystems and Livelihoods is one of them, which is championed by Sri Lanka.

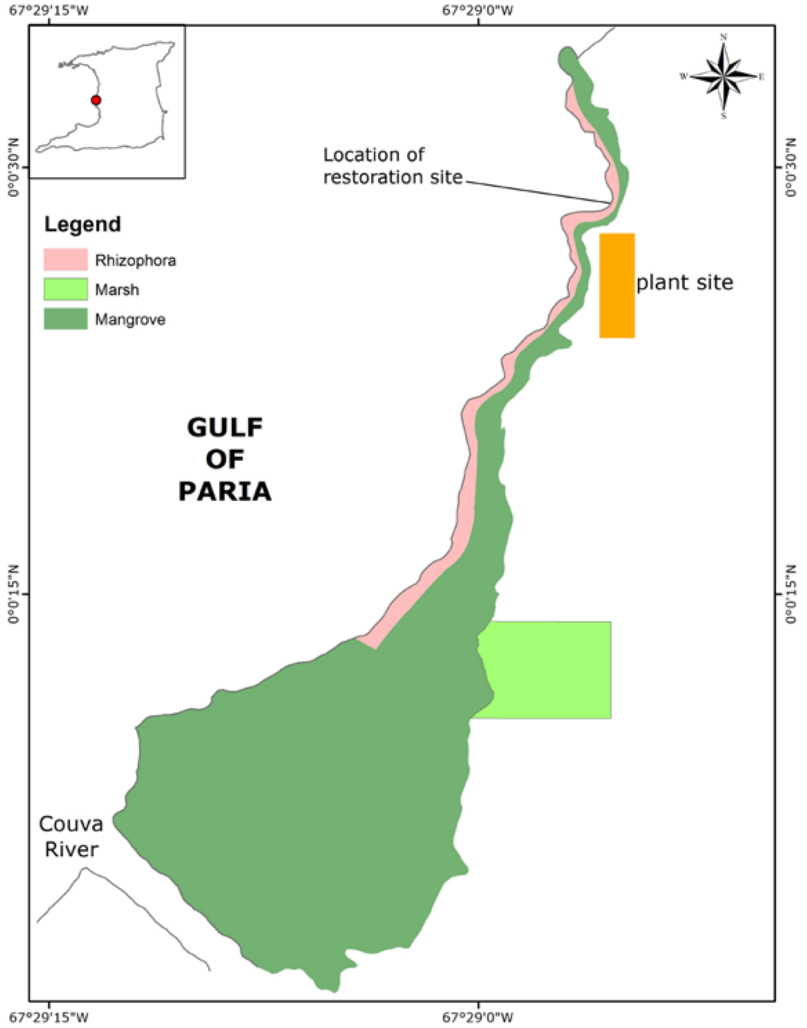
Mangrove Ecosystems and Livelihoods Action Group

- In the world, Sri Lanka is leading in mangrove conservation in many fronts – policy, restoration, community participation, etc.
- Current members of the Action Group are: Australia, Bangladesh, Bahamas, Jamaica, Kenya, Nigeria, Pakistan, Sri Lanka, Trinidad and Tobago, the United Kingdom and Vanuatu.
- Sri Lanka hosted the first meeting of Action Group in October 2019.
- Going forward, MELAG continues to share best practices, working on further analyzing mangrove policy and practices in member countries, identifying and initiating processes for capacity building related issues, while ways and means for regional collaborations and on-ground support for conservation and restoration are also being considered, amidst COVID-19 pandemic.

"If there are no mangroves, then the sea will have no meaning. It's like a tree with no roots, for the mangroves are the roots of the sea !"

Mad-Ha Ranwasii, a Thai fisherman & village headman, 1992.

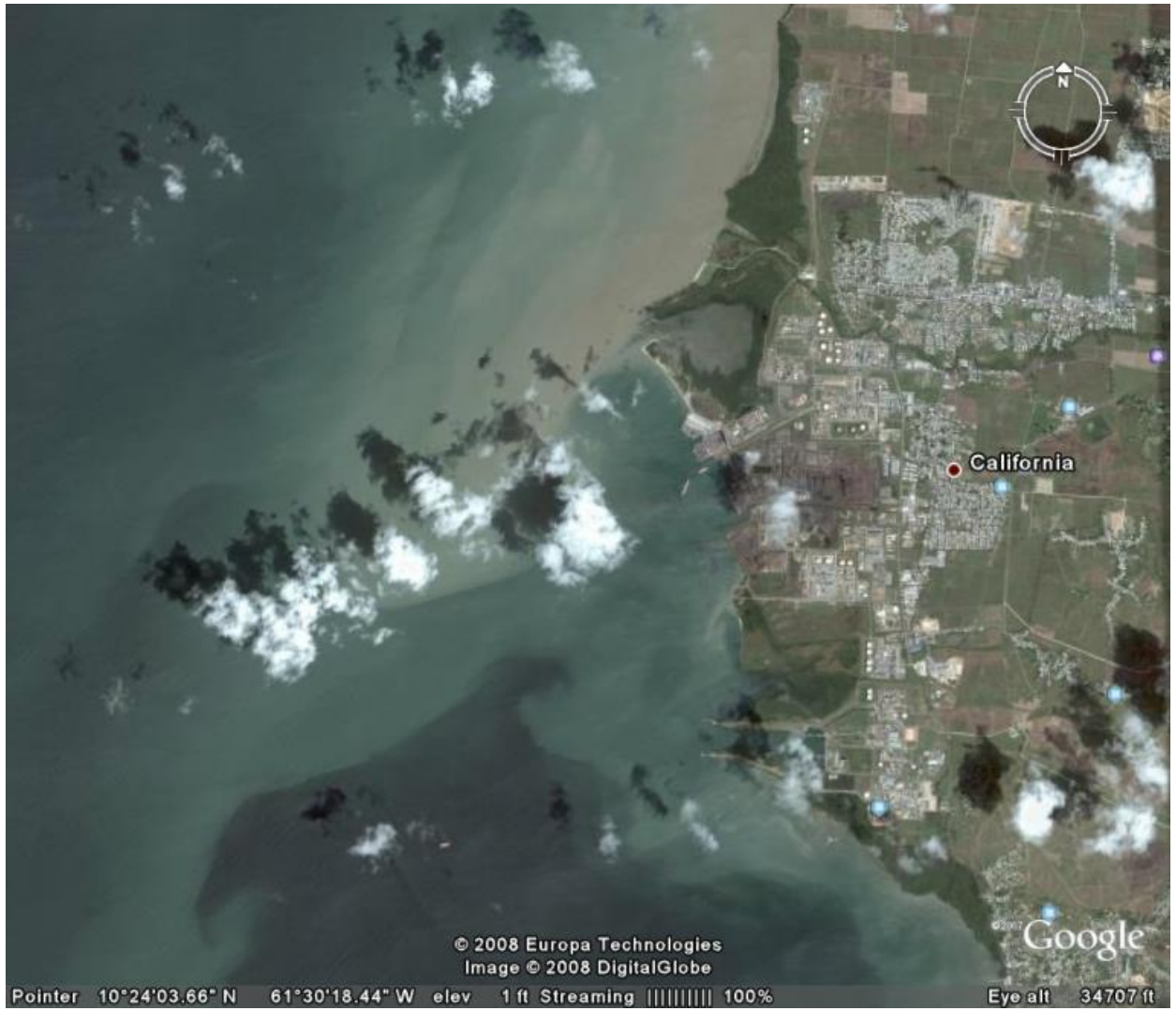
TRINIDAD AND TOBAGO CASE STUDY:
RESTORATION OF A MANGROVE SYSTEM IN POINT LISAS



Rahanna A. Juman Ph.D

Institute of Marine Affairs, Trinidad and Tobago

Point Lisas Industrial Estate



In 1979, 500 ha of mangrove from the Couva –Claxton systems were cleared for development of the Point Lisas Industrial Estate

In 1997, an ammonia plant cleared mangrove to pass an effluent pipeline to the sea

Objectives:

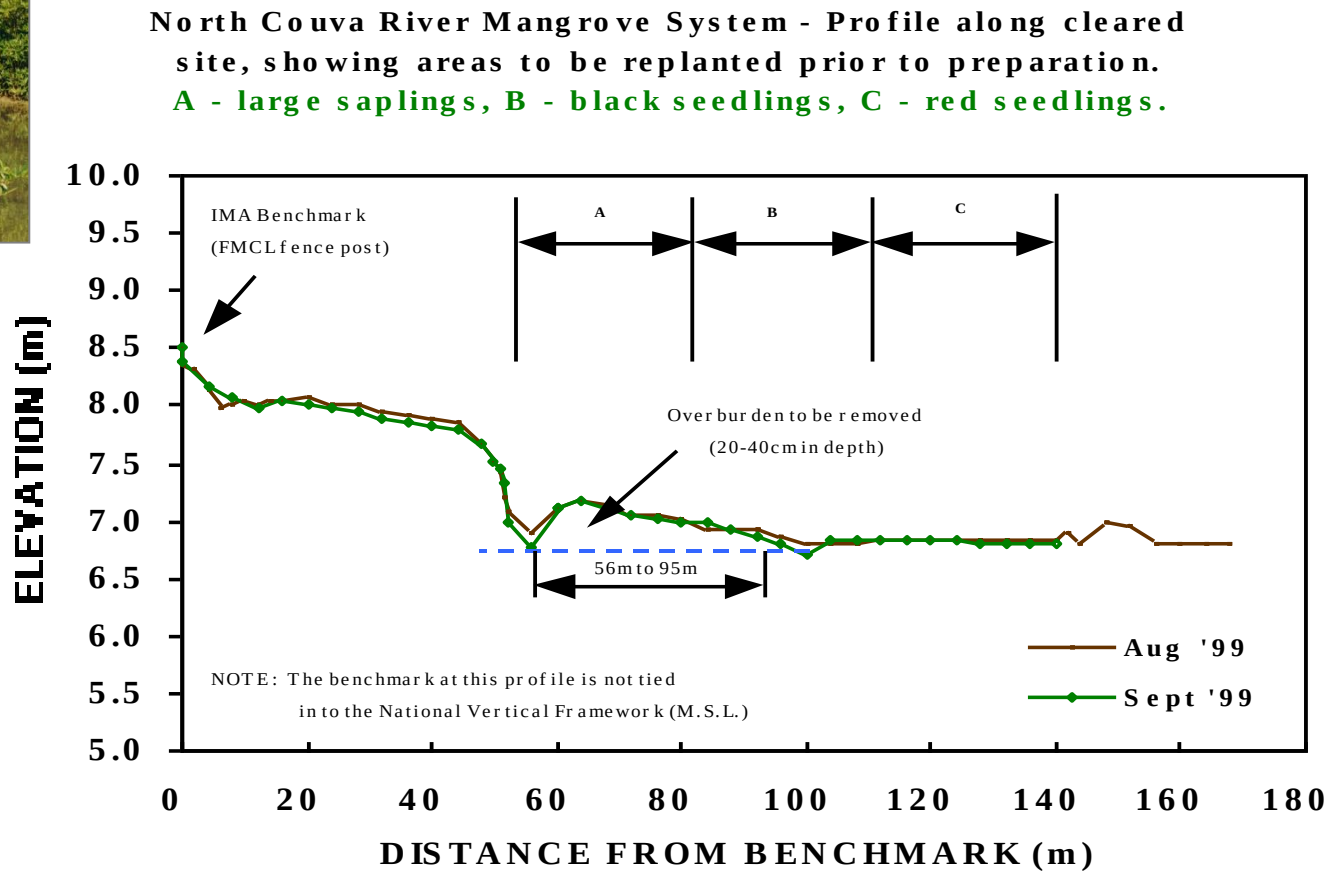
1. Determine why natural regeneration of mangrove in this area did not occur

2. Prepare site and replant mangrove seedlings in the area

Wetland area to be restored (approx. 1200m^2) prior to preparation and replanting

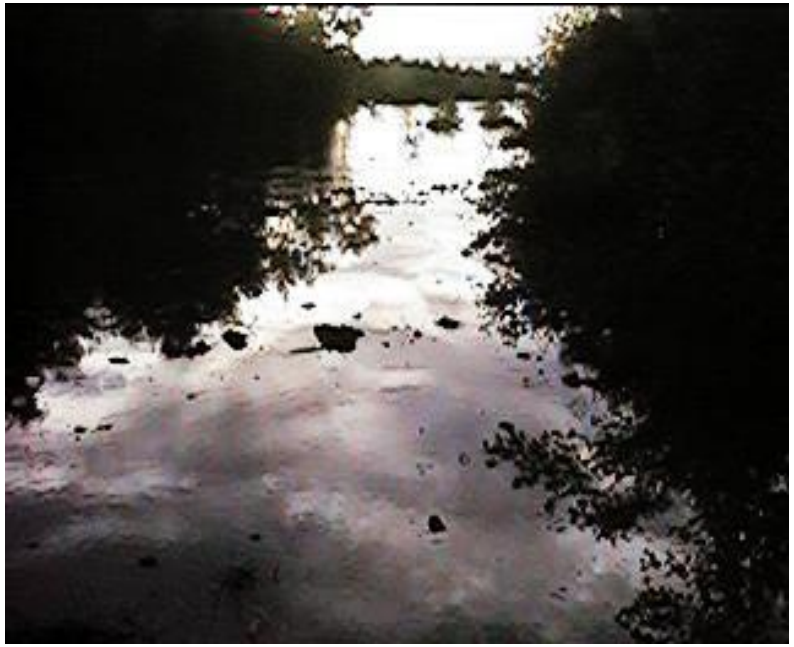
APPROACH TO PROJECT:

Profile data being collected in area to be restored



Excavation work being carried out in landward area

Restoration site flooded at high tide after being leveled, prior to replanting



Mangrove planting

170 red, 76 black and 15 white mangroves were replanted

Species composition 10 months after replanting

Species	# Planted	# Survived	# Natural Colonizers
Red mangrove	170	10	
Black mangrove	76	45	169
White mangrove	15	10	120

REPLANTED AREA 10 MONTHS AFTER (AUGUST 2000)

BY 2006
DENSITY 13 TREES/ 0.01 HA,

AVE HEIGHT=9.9 M ±1.9,

AVE DBH =11.71±5.9 CM

IMPLICATION FOR MANGROVE RESTORATION EFFORT

- Determine cause of die-off; whether chronic or acute
- Determine why natural regeneration has not occurred
- Determine whether the physical characteristics of the sites has been altered
- Restore the physical environment – tidal hydrology
- Natural colonization will occur once there is a source of seedlings in the area
- Mangrove planting should be the final option

Republic of Kenya

The Commonwealth Blue Charter

K.M.F.R.I

Race to save the once little known swimming tidal forests

Dr. Judith Okello

KMFRI-Mombasa

Unlocking the wealth of mangrove ecosystems

Commonwealth Blue Charter webinar

GoToWebinar | 14:00 – 15:00 BST (GMT + 1), 27 July 2020

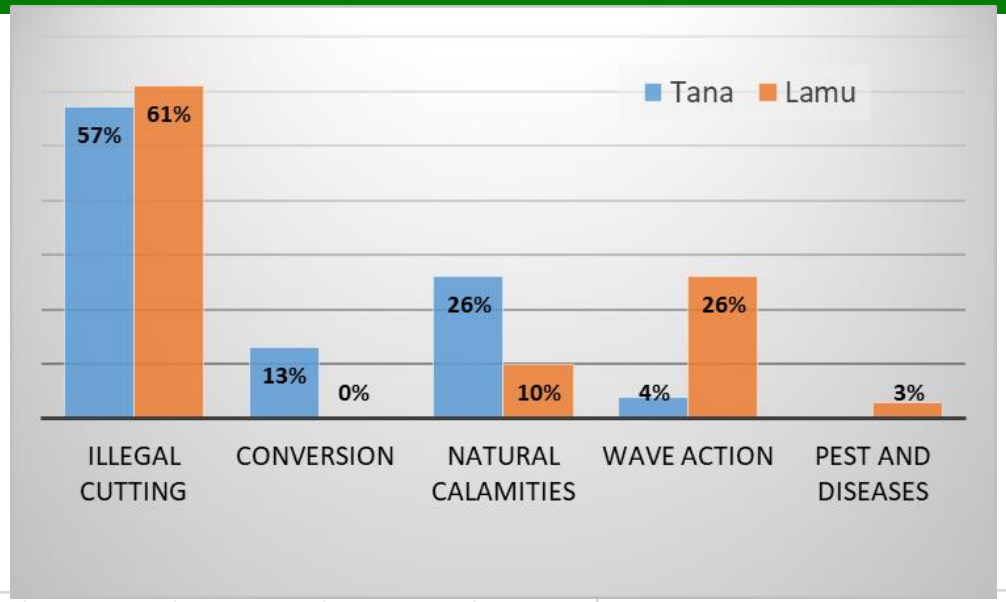
The Nature Conservancy

Mangroves threatened yet critical

Ecological settings of degraded mangrove sites

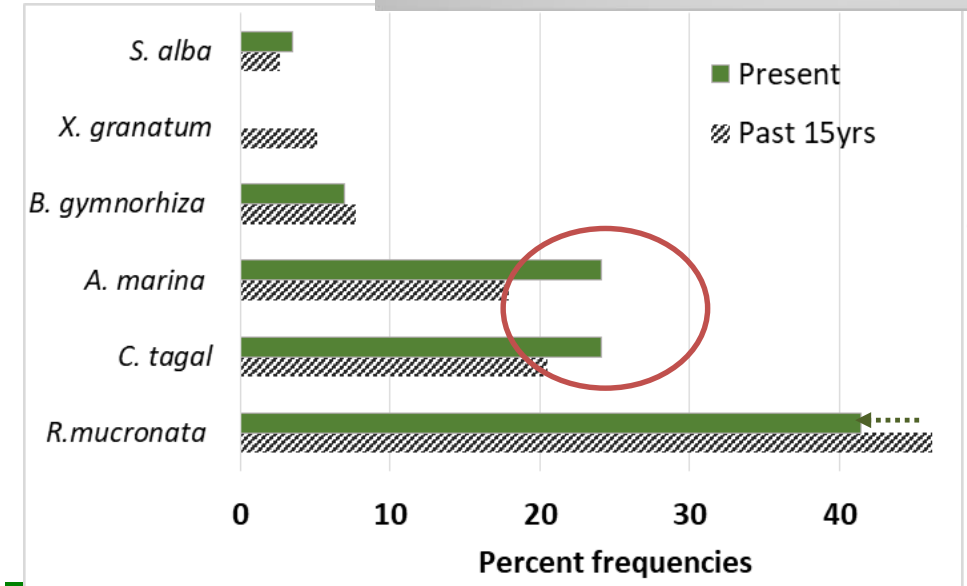
- KII, FGD: 30 villages- proximity to mangrove area
  - what sites the locals consider as degraded; temporal variations in species composition, utilization patterns,
- Systematic sampling in perceived degraded areas (satellite imagery and community)
  - Structure; include species in adjacent area
  - Densities of stumps, fallen and standing dead trees, and the regeneration status.
  - Environmental variables: salinity range, redox potential, inundation frequency
- Mangrove cover change analysis 2010 to 2019

Degradation from the local's perspective

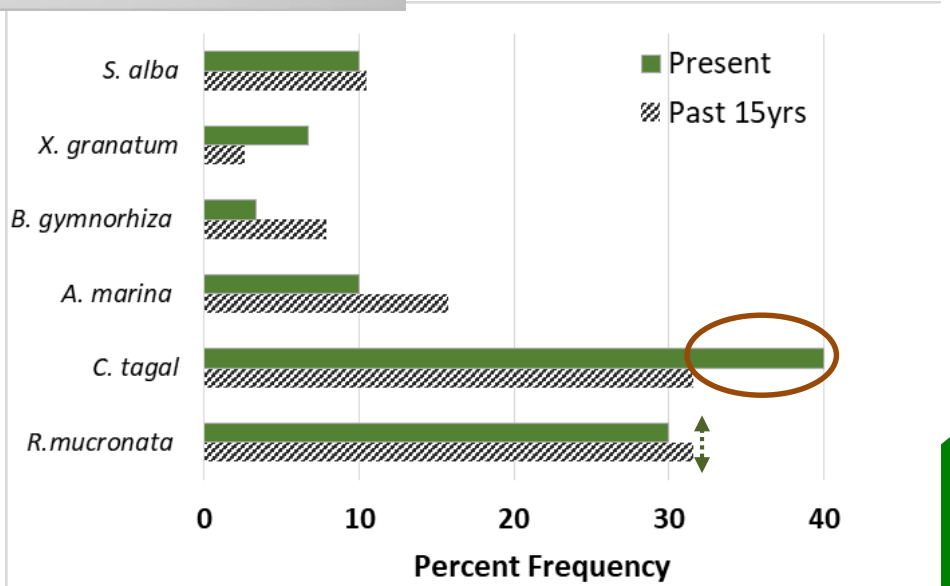


- Bare areas
- Fallen trees
- Areas with stump remains
- Silted trees

Male



Female



Ecological characteristics

Natural regeneration > 2,500/ha (FAO, 1994)

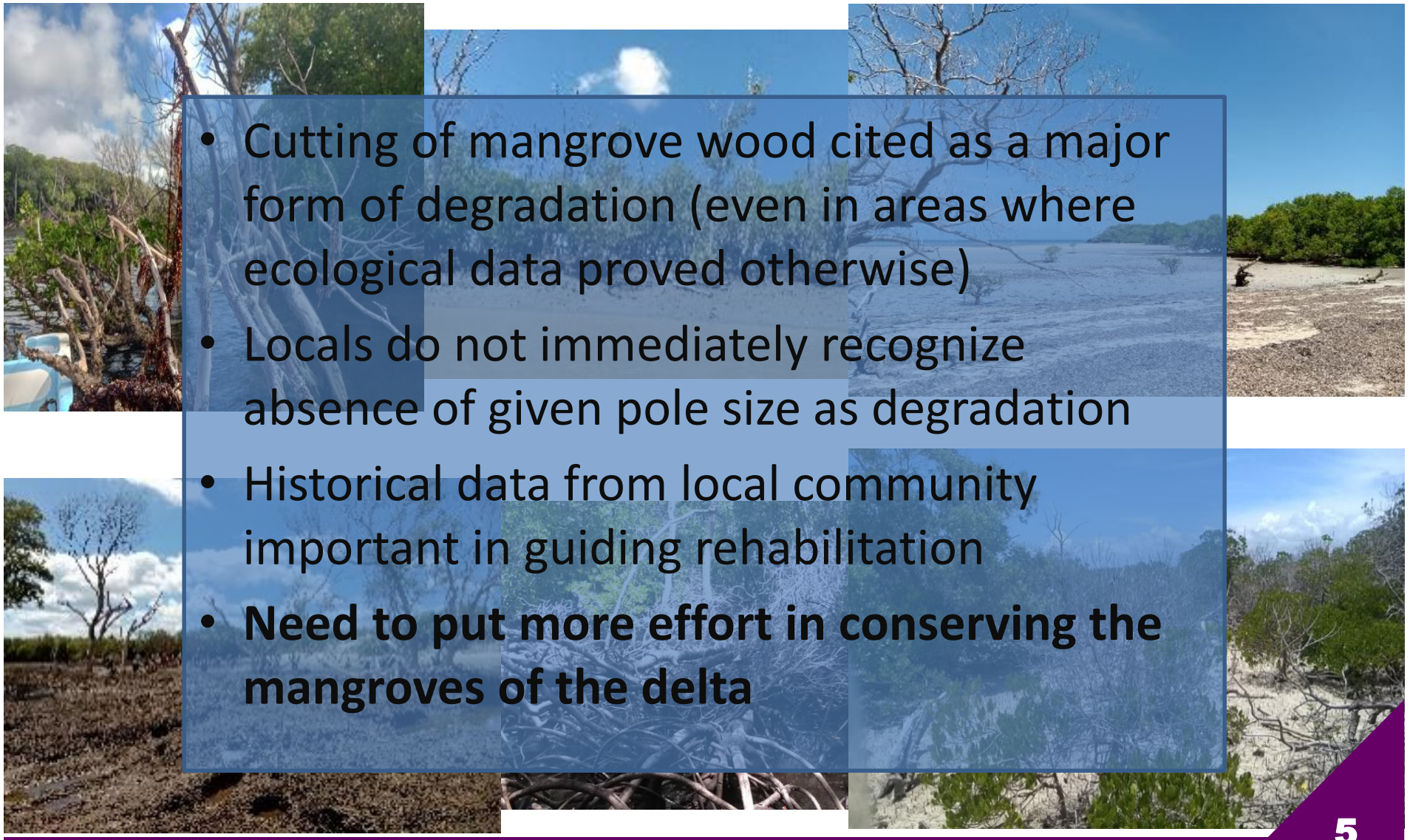
Area	Density (counts/ha)				
	Stumps	Dieback	Fallen dead	Standing dead	Natural regeneration
Kiunga (Protected)	58.9	55.2	28.6	114.6	5068.9
Pate	1918.5	0.0	0.0	4.3	10950.0
Lower Tana Delta	933.9	208.9	37.5	132.1	904.2

- Kiunga- standing dead
- Pate almost purely overexploitation
- Lower Tana Delta- Integrated causes

Mean=127 counts/ha

Mean=67 counts/ha

Conclusion



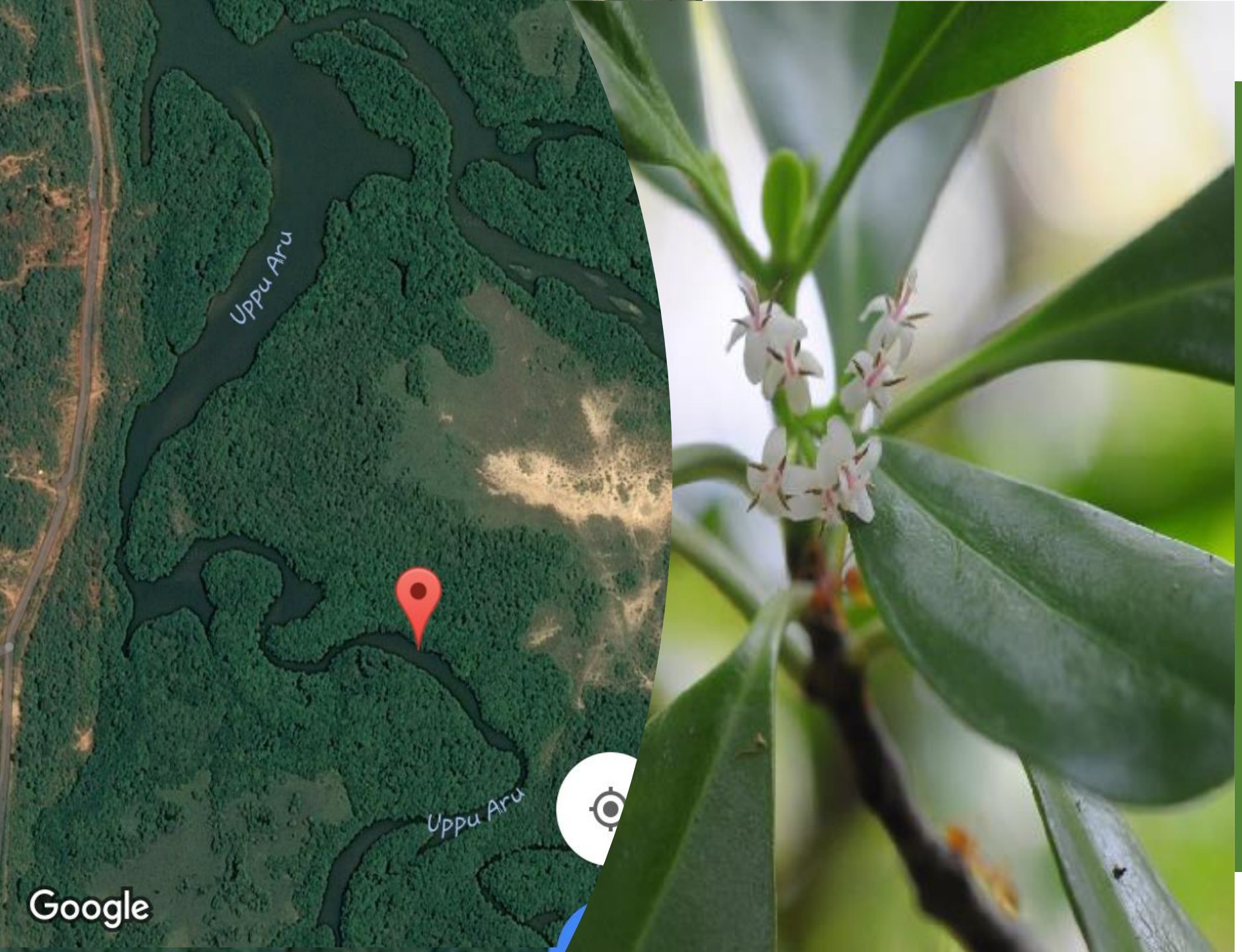
- Cutting of mangrove wood cited as a major form of degradation (even in areas where ecological data proved otherwise)
- Locals do not immediately recognize absence of given pole size as degradation
- Historical data from local community important in guiding rehabilitation
- **Need to put more effort in conserving the mangroves of the delta**

Mangroves everywhere: No two stands similar

Achini Wathsala Fernando

32 mangrove associates including 3 near threatened

	Species	IUCN Red List 2012
1	*marina* (Forsk.) Vierh.	LC
2	L.	NT
3	*Lumnitzer*	NT
4	*Excoecaria agallo*	LC
5	*Pemphis acidula* Forst.	NT
6	*Xylocarpus granatum*	EN
7	*Bruguiera cylindrica* (L.) Blume	EN
8	*Bruguiera gymnorrhiza* (L.) Lamk.	VU
9	*Ceriops tagal* (Perr.) C.B. Robinson	NT
10	*Rhizophora apiculata* BL	NT
11	*Rhizophora mucronata* Lamk.	
12	*Scyphiphora hydrophyllacea* Gaertn.f.	
13	*Aegiceras corniculatum* (L.) Blanco	LC
14	*Sonneratia alba* J. Smith	EN

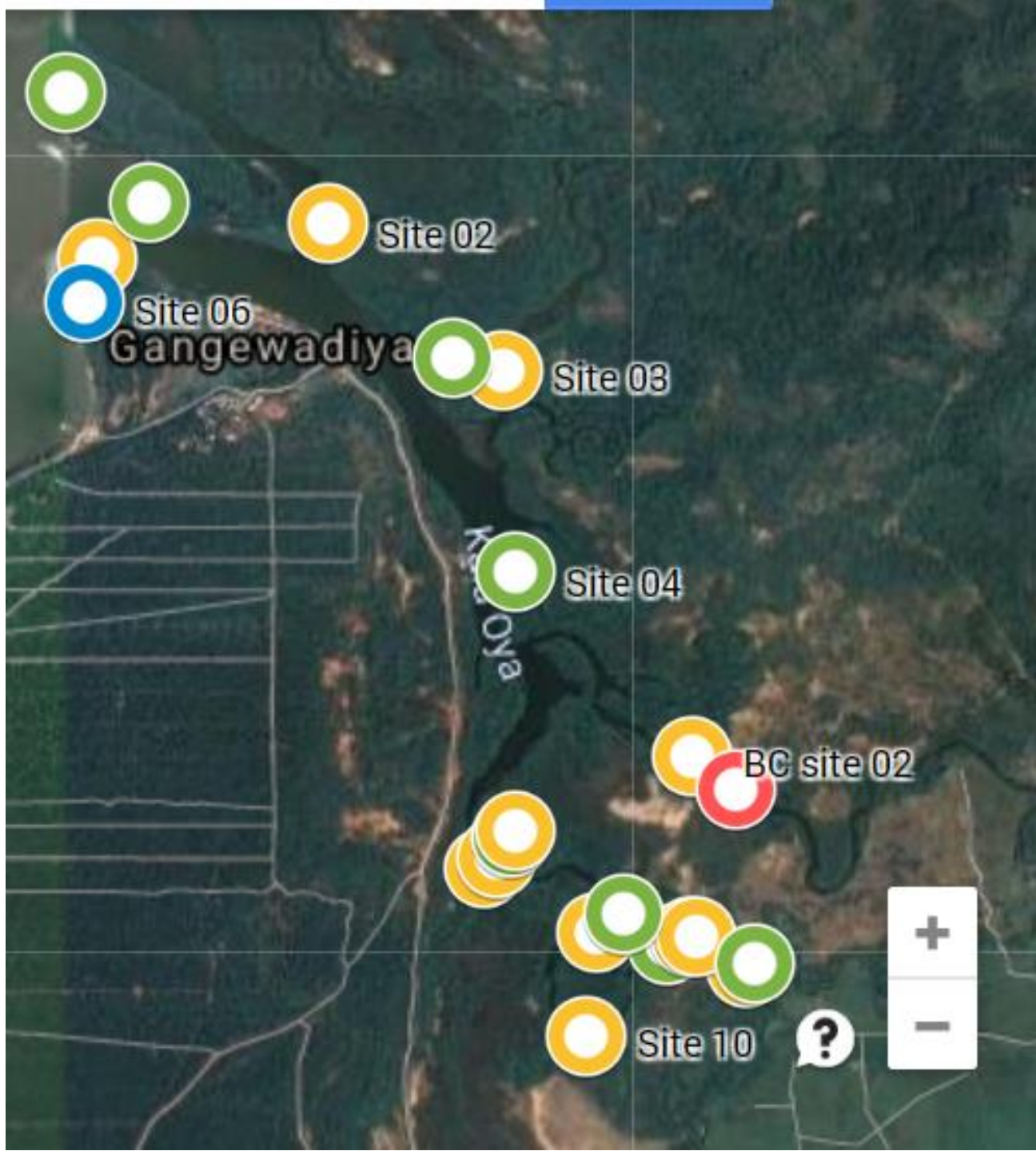


Scyphiphora hydrophyllacea Gaertn.f.

Mapping of vulnerable and their point locations

Shannon Weinner Index of Species Diversity

Value	Color Code
0.0000-0.5000	
0.5100-1.0000	
1.1000-1.5000	
1.5100-2.0000	
2.1000-2.5000	
2.5100-3.0000	



Importance of data for evidence-based management

- Data revealed within estuary species distributions
- Helped in identifying areas that harbour vulnerable species
- Established the status of underlying threats to ecosystem
- Enabled developing mangrove ecosystem based eco-tourism plan

- **Forms the baseline for future monitoring of this ecosystem**

UK International Climate Finance - Blue Forests Project

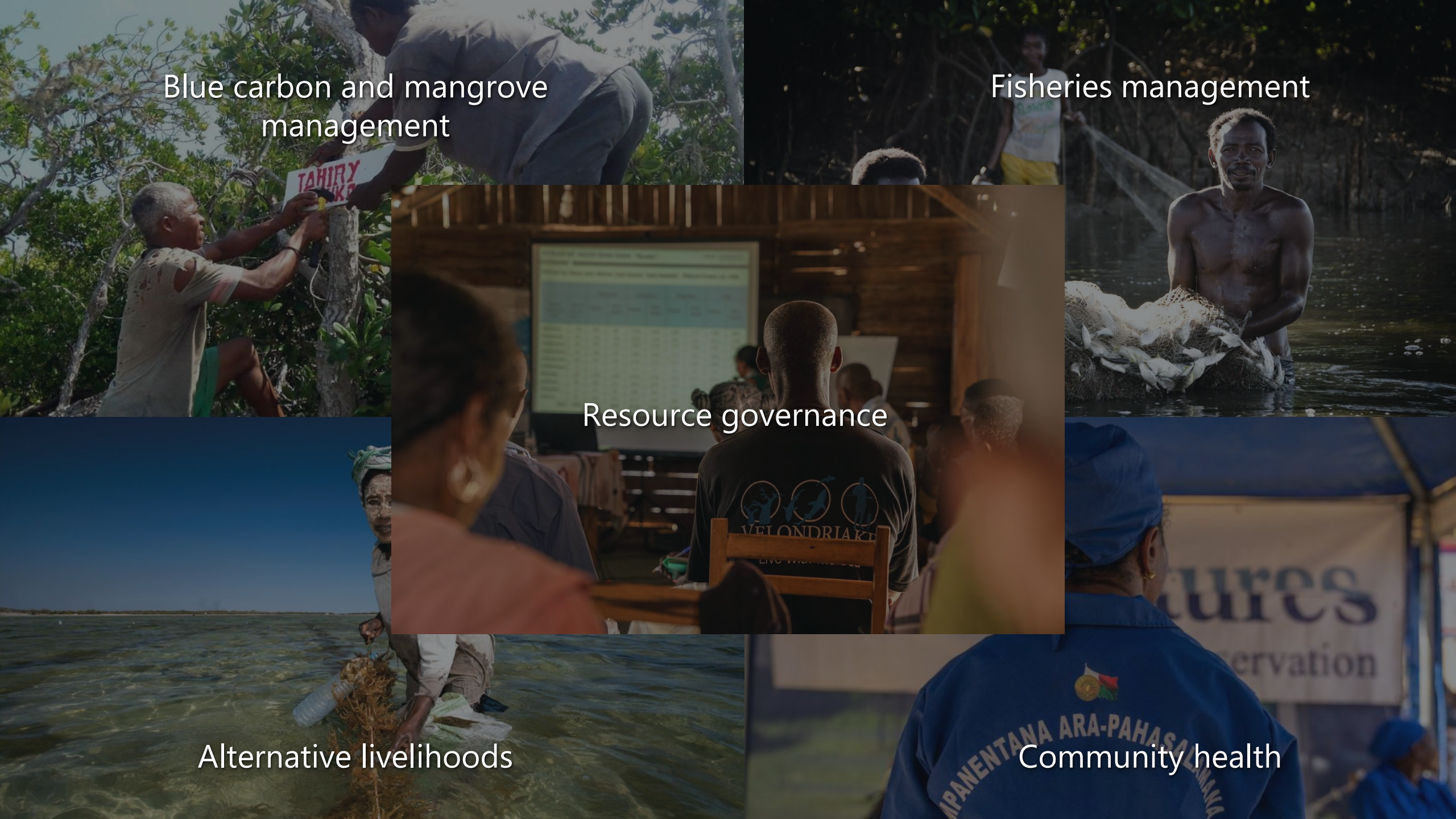
Empowering coastal communities and
averting climate breakdown

www.blueventures.org

blue ventures
beyond conservation


Destruction of mangroves for aquaculture, agriculture, timber and charcoal
Lack of property rights for communities = no incentive for sustainable management
Few viable alternative livelihoods = communities are forced to harvest natural resources
Mangroves and their ecosystem services are undervalued = lack of funding for mangrove management
Ineffectual forest governance = communities have no control over their forests

The Blue Forests Initiative


Blue carbon and mangrove management
Fisheries management
Resource governance
Alternative livelihoods
Community health


Indonesia
Madagascar

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