

**Enhancing local capacity for marine protected areas in the Coral Triangle region
by establishing learning sites.**

Case-study Nusa Penida Marine Protected Area (MPA) in Bali, Indonesia

Turning knowledge and skills into on-the-ground action



RILI DJOHANI, Executive Director CORAL TRIANGLE CENTER (CTC)

1st Asia Parks Congress, Japan

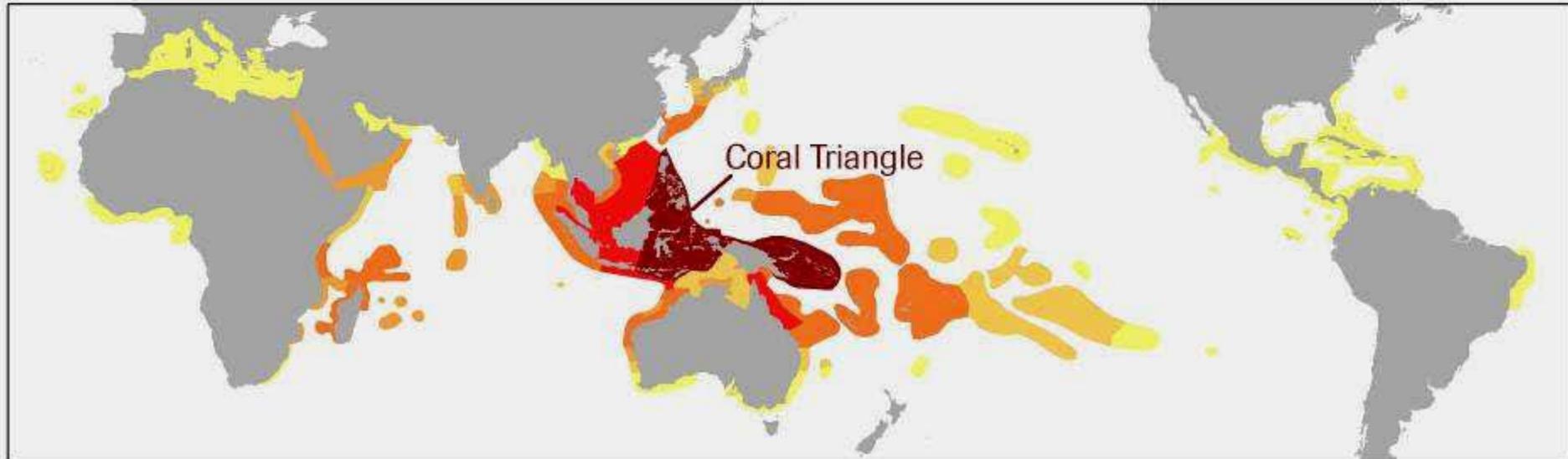
Sendai, 13-17 November 2013



Coral Reefs critical fish nurseries



CORAL DIVERSITY OF THE WORLD



Compiled from global distribution data of all coral species by Charlie Veron, Lyndon DeVantier and Emre Turak.
Production by Stuart Kininmonth. A product of Coral Geographic, November, 2007.



Background: Threats

- Destructive Fishing
- Overfishing
- Dredging, Mining
- Land-based Pollution
- Sea-based Pollution
- Climate change

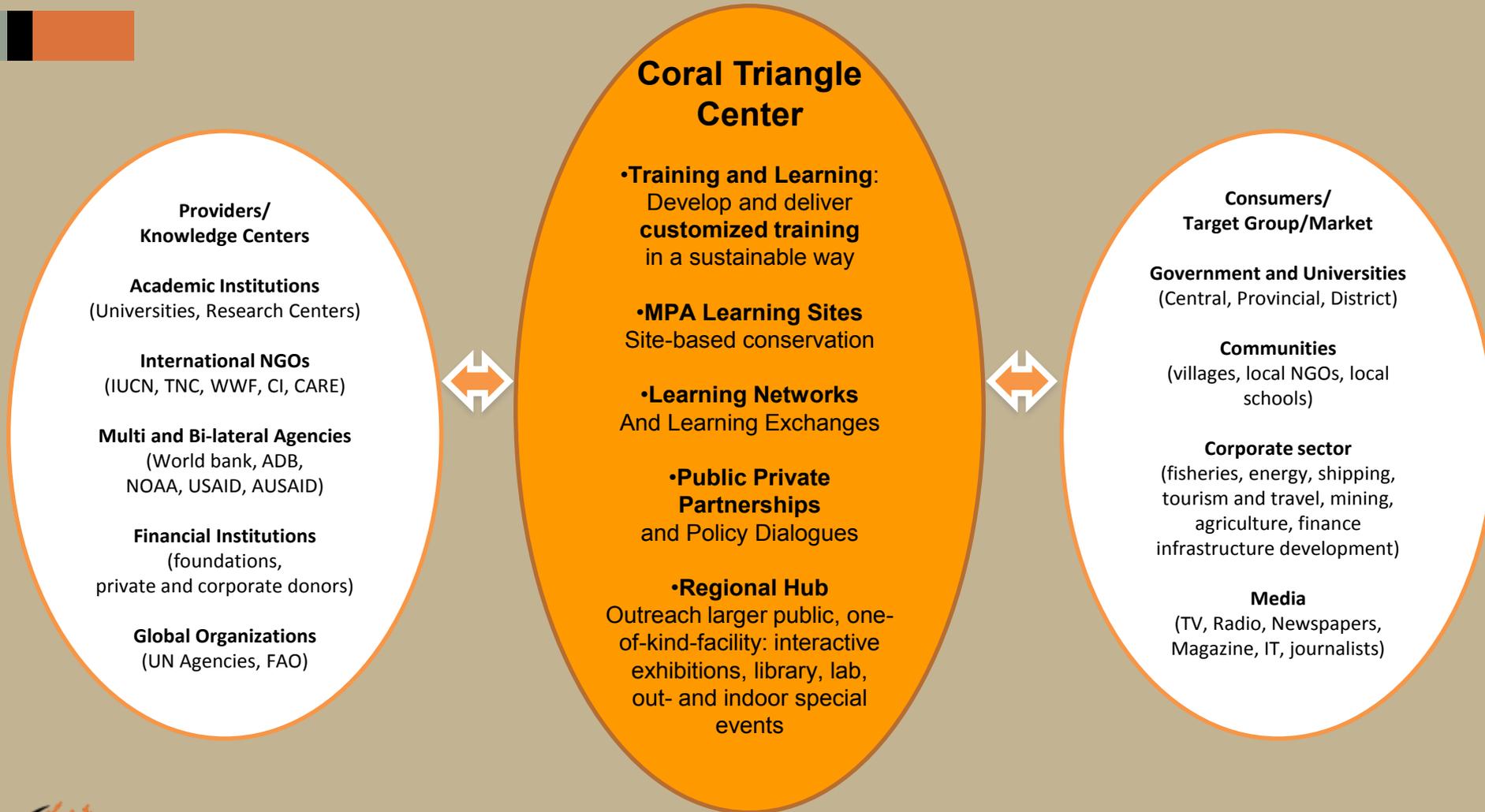




PHOTO: REEFBASE / T. HEESER



CTC Niche



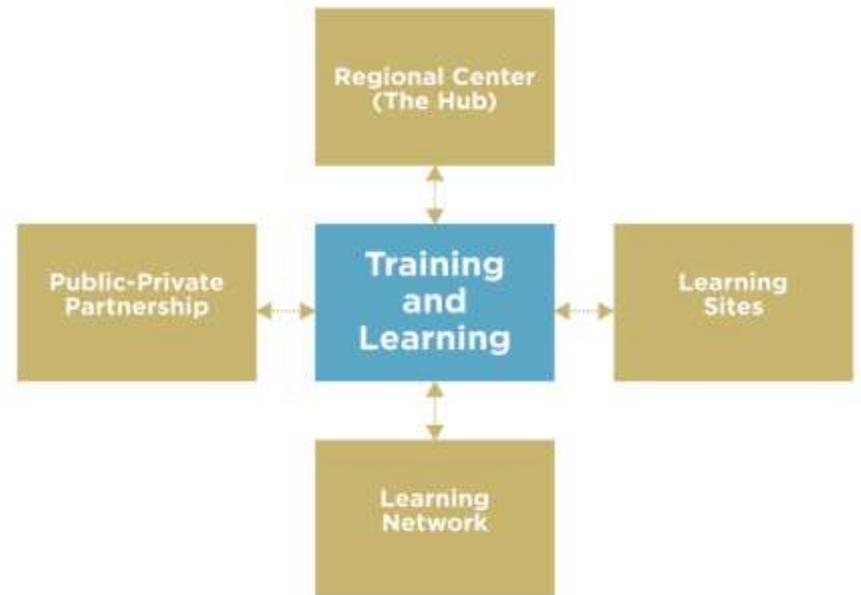
4. Program Overview

CTC Plan: Strategic Overview and Path Towards Sustainability



CTC consists of 5 programs:

- Training and Learning
- Learning Sites
- Learning Network
- Public-Private Partnerships
- Regional Center



1) Training and Learning

Modules

- 1.Principles of Marine Protected Area
- 2.Management Training for Teachers on Marine Conservation
- 3.Marine Conservation Action Planning
- 4.Marine Protected Area Design
- 5.Marine Protected Area Management Effectiveness
- 6.Perception Monitoring
- 7.Dive Training and Introduction to Marine Biological Monitoring
- 8.Reef Health Monitoring
- 9.Marine Resource Use Monitoring
- 10.Spawning Aggregation Sites Monitoring
- 11.Training on Marine Biological Survey/ Observation
- 12.Facilitation Techniques for Marine Protected Area Public Consultation



1 - Training and Learning

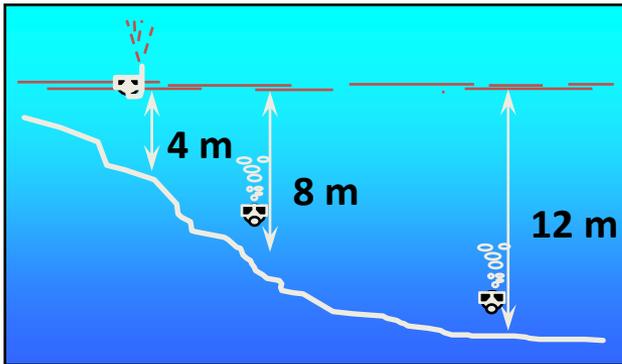
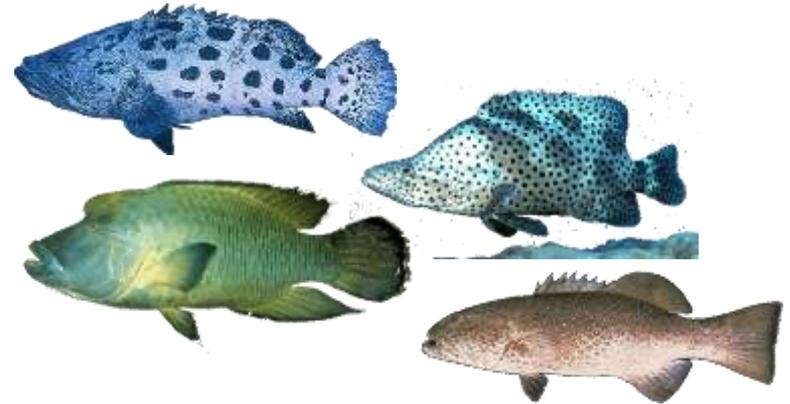
- CTC aspires to train leaders and communities to strengthen their professional competence and institutional capacity to care for marine resources and coastal ecosystems.
- Portfolio
 1. Site-based trainings
 2. Trainings for MPA managers
 3. Training of Trainers
 4. School for Marine Resources Conservation and Management (SMRCM)





MARINE MONITORING

- Reef Health
- Spawning Aggregation
- Resource Use



“Lifeforms and Substrate”

Acropora Branching



Coral Mushroom



Macro Algae



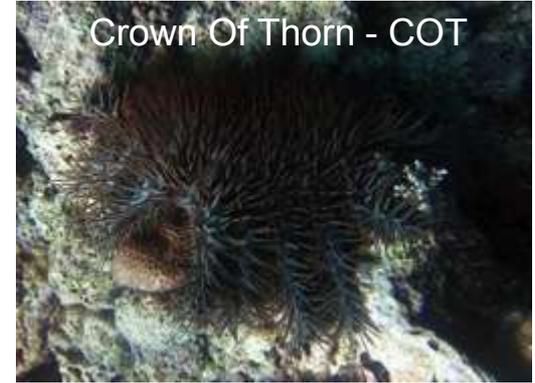
Coral Foliose



Gorgonian



Crown Of Thorn - COT



Soft Coral



Giant Clam - Other



Coral Rubble



Fish Community

1. Visual census
2. Commercial Fish Target
3. Length Estimation



2) Learning Sites

Learning by doing; platforms for learning



NUSA PENIDA

- Design
- Management
- Governance and financing
- Evaluation
- Facilitation for field training and learning exchanges



- public consultations
- Zoning plans
- Long term- Management Plan



Nusa Penida Islands



Nusa Penida

- Southeast of Bali Island
- Nusa Penida Islands: Penida, Lembongan and Ceningan Islands
- Klungkung District – 16 administrative villages, 40 traditional villages (mostly Balinese)- 45.000 inhabitants
- Fishers, tourism workers, seaweed farmers, farmers, cattle ranchers
- Coral reefs (300 species), mola-mola, manta rays, cetaceans, sharks, mangroves (13 species), seagrass (8 species)
- Devotion to tradition, rituals and culture, preserving sacred temples: Pura Penataran Ped, Pura Batu Medauh, Pura Giri Putri and Pura Puncak Mundi.





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Manta ray (*Manta birostris*)



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Oceanic Sunfish (Mola mola)

Marine Resource Use

- Overlapping uses of small coastal areas – fishers, seaweed farmers and marine tourism sector
- Fishing activities vs diving sites
- Beaches and adjacent reefs: coastal resorts, marine tour operators vs. Seaweed farming
- Mangrove cutting: firewood for salt production



Marine Recreational Operations







Ecoourism and Seaweed Farming

Participatory measures and actions

- Series of public consultations with key stakeholders groups

Consensus:

- Establishment of MPA
- Zoning system
- Open-closed areas
- Halt on mangrove cutting practices
- Mangrove rehabilitation



Mangrove Rehabilitation



Nusa Penida

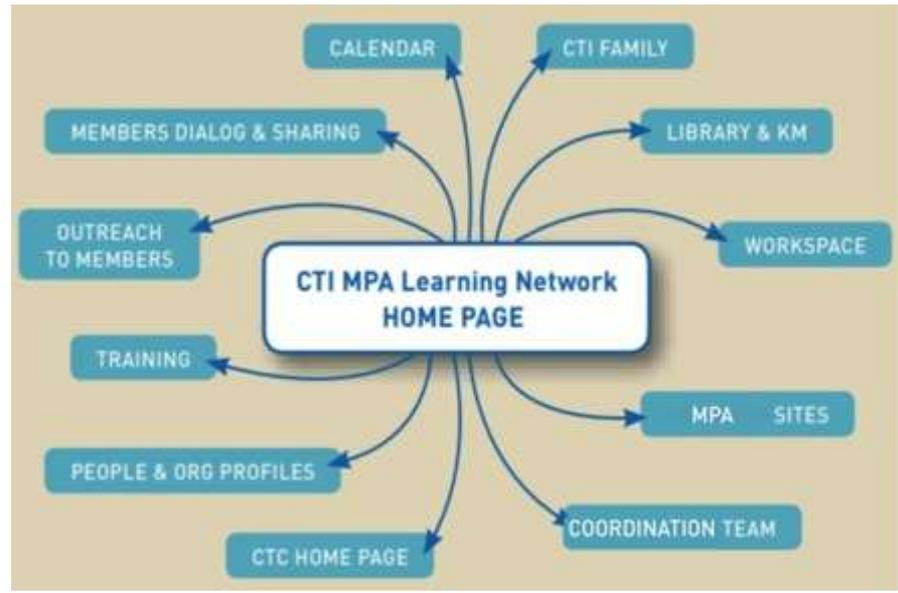
Platform for Learning

- Zoning and management plan development
- Management body and sustainable financing mechanism development
- 12 training modules on MPA design and management
- Cross visit programs to other learning sites in CT
- Community empowerment and alternative livelihoods
- Nature laboratory for researchers, universities, and practitioners.



3) Learning Networks

Learning network reaching out to **MPA Managers and Practitioners** in more than **1500 MPAs** in the Coral Triangle.





3) Learning Networks



A triple bottom line for marine protected areas

environmentally sound



economically viable



socially responsible



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