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
Coral Reefs
critical fish nurseries
Coral Diversity of the World

number of coral reef species per ecoregion

- 0-100
- 101-200
- 201-300
- 301-400
- 401-500
- 501-600

Background: Threats

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

Coral Triangle Center

- **Training and Learning**: Develop and deliver customized training in a sustainable way
- **MPA Learning Sites**: Site-based conservation
- **Learning Networks**: And Learning Exchanges
- **Public Private Partnerships**: and Policy Dialogues
- **Regional Hub**: Outreach larger public, one-of-kind-facility: interactive exhibitions, library, lab, out- and indoor special events

**Providers/Knowledge Centers**
- Academic Institutions (Universities, Research Centers)
- International NGOs (IUCN, TNC, WWF, CI, CARE)
- Multi and Bi-lateral Agencies (World bank, ADB, NOAA, USAID, AUSAID)
- Financial Institutions (foundations, private and corporate donors)
- Global Organizations (UN Agencies, FAO)

**Consumers/Target Group/Market**
- Government and Universities (Central, Provincial, District)
- Communities (villages, local NGOs, local schools)
- Corporate sector (fisheries, energy, shipping, tourism and travel, mining, agriculture, finance infrastructure development)
- Media (TV, Radio, Newspapers, Magazine, IT, journalists)
CTC consists of 5 programs:

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

4. Program Overview
CTC Plan: Strategic Overview and Path Towards Sustainability
1) Training and Learning

Modules

1. Principles of Marine Protected Area
2. Management Training for Teachers on Marine Conservation
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

- Sweetlips
- Barracuda
- Tuna
- Unicornfish
- Snappers
- Trevallies
- Tuna
- Rabbitfish
- Parrotfish
- Napoleon Wrasse
- Grouper
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

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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.
Manta ray (*Manta birostris*)
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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