

# Indonesian MPA's: An overview, with case study on Bunaken National Park Co-Management



Meity Mongdong

Natural Resources Management Program, North Sulawesi

## Presentation Outline

- Overview of Indonesian MPA's
- Co-management Case Study: Bunaken National Park
- Zonation Revision Process
- Involvement of Villagers/Private Sector in Management
- Scientific Monitoring Program
- Bunaken National Park Management Advisory Board
- Park Entrance Fee System

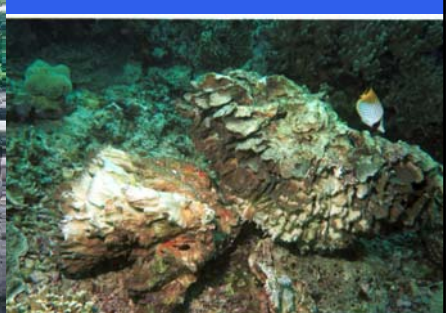
## Indonesian Marine Biodiversity

- Over 17,000 islands
- 18% of world's coral reefs
- “Epicenter of marine biodiversity”
- Most extensive and diverse reefs in eastern Indonesia



## Indonesia's threatened reefs

- 82% of Indonesian reefs “at risk” from bombing, cyaniding, sedimentation, pollution
- LIPI estimates that almost 50% of Indonesia's reefs have less than 25% live coral cover



## To protect these threatened reefs:

- In 1990 Indonesia targeted 10 million hectares of MPA's by 1993, and 30 million hectares by 2000
- The sad reality: in 1998, only 39 MPA's including approximately 4.5 million hectares

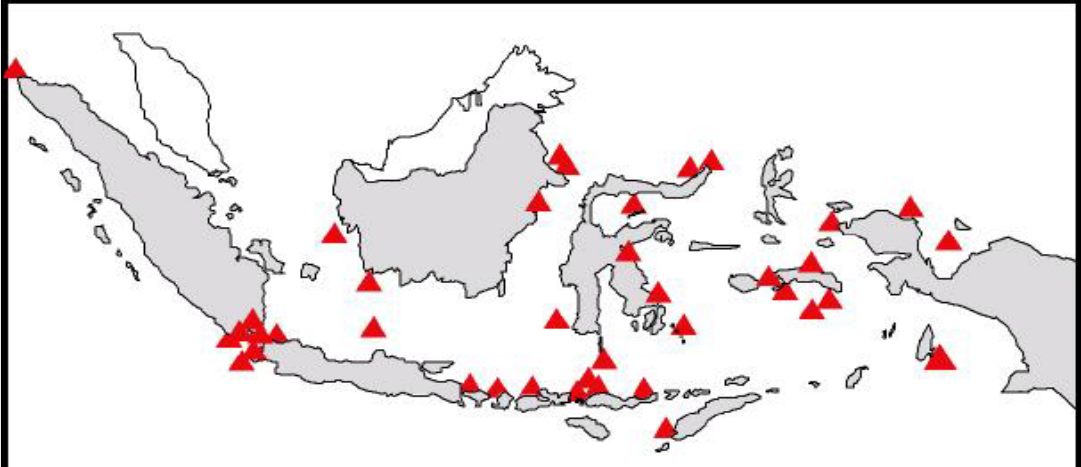


## Types of Indonesian MPA's

- Marine National Parks (6)
- Terrestrial National Parks with marine component (9+)
- Marine Recreation Parks (14)
- Marine/Wetland Nature Reserves (8)
- Marine/Wetland Wildlife Sanctuaries (3)



## Location of Indonesian MPA's



Many Indonesian MPA's qualify as "paper parks", but most offer some protection via:

- Rangers
- International NGO's – TNC, WWF, WCS, CI
- Local NGO's
- Nature tourism operators
- Development Aid projects: USAID, World Bank, ADB, JICA, Ausaid

Indonesian MPA's are centrally managed by Dept. of Nature Conservation (Ministry of Forestry), and face numerous problems:

- Insufficient socialization
- Decreasing funding
- Increasing conflicts with local governments and communities in the era of Indonesian decentralization

## A new strategy for Indonesian MPA's: Co-management

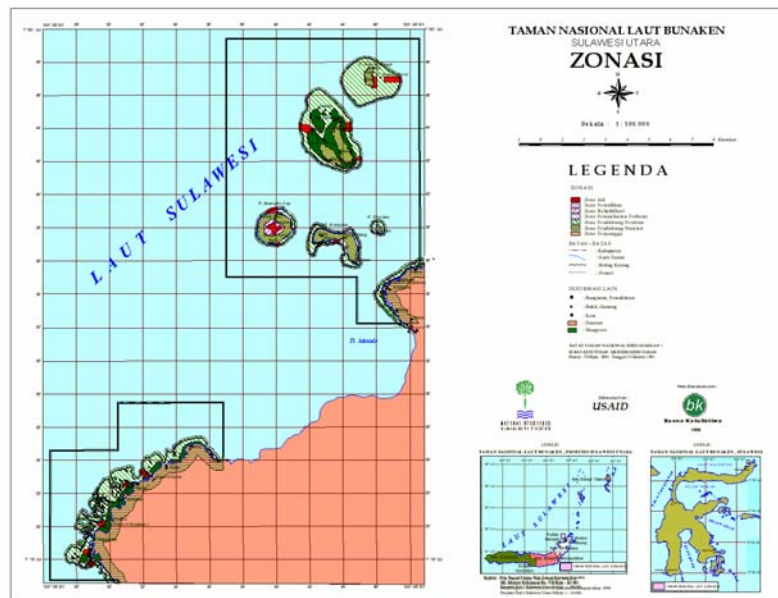
- Increasing attempts at co-management – increased involvement of local government, local communities living inside park, and tourism sector in management
- Case study: Bunaken National Park in North Sulawesi



# Bunaken National Marine Park



- ◆ Established 1991, overseen by BTNB
- ◆ ~90,000 hectares, including 5 islands and North Sulawesi mainland
- ◆ exceptionally diverse
- ◆ 21 villages in park
- ◆ Well-developed marine tourism industry





Despite national park status and significant funding inputs,

the park has suffered a slow, continuous degradation due to a number of threats....



Coral mining



Diver/anchor damage



Blast fishing

AND  
TRASH!!!!



Cyanide fishing

## Management Shortcomings

- Problematic zonation system (2 conflicting ones!!)
- Resentment between central and local government agencies, weakened position of National Park Office
- Leading to increasingly vocal calls for better management by villagers and the tourism sector!



## Zonation Revision

- 2 conflicting zonation systems
- Unclear demarcation of zones
- Ambiguous rules for each zone





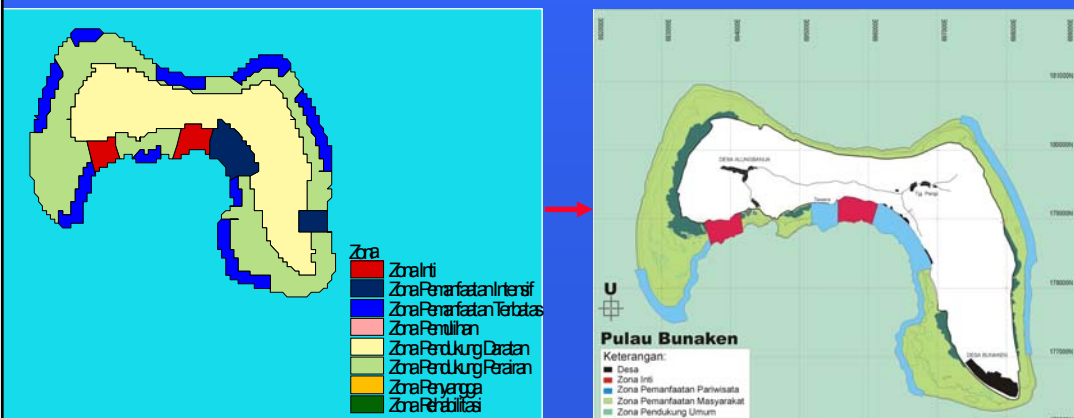
## Zonation Revision

- Village-by-village process, starting with Bunaken Island – with focus on two primary user groups (villagers and tourism sector)
- Accommodate current use patterns, formulate *explicit* rules for each zone



## Features of Bunaken Zonation Revision

- 8 original zones reduced to 3 primary zones with clearly understandable zone names, clear borders, and explicit rules



## Private Sector Involvement in Management



### NSWA

- Formed in 1998, 7 dive operators
- Now includes 14 operators, with strong links to national park office, environmental NGO's



## NSWA Activities – “3 E’s”

### Education, Employment, Enforcement

#### EDUCATION:

- Supported printing of coral reef educational cartoon books
- Scholarship donation program
- Mooring buoy design competition for villagers
- Sponsored a PADI Project AWARE workshop on Marine Resource Management by Dive Professionals
- Sponsored an Earth Day 2001 Reef Cleanup for Bunaken Villagers
- Donated coral reef identification books/photos to community information centers

## NSWA Activities – “3 E’s”

#### EMPLOYMENT:

- Committed to hiring more villagers directly in operations (boatmen, dive guides, receptionists)
- Village handicrafts program
- Purchase of pelagic fish products from villagers (mahi-mahi, etc)
- Recruited 21 Bunaken villagers into joint patrol system



## NSWA Activities – “3 E’s”

### ENFORCEMENT:

- Strict ban on anchoring
- Innovative Patrol Agreement with BTNB/SATPOLAIR, using Bunaken Preservation Fund (\$5/diver) to fund patrols (with NRM matching grant). Highly successful in curbing DFP and socializing new zonation system!
- Villager involvement



## Involvement of Villagers in Management: Bunaken Concerned Citizen's Forum

- Composed of villagers from all 21 villages in the park
- Represents aspirations of villagers in management decisions
- Proposes conservation programs specific to each village's needs



## Scientific Monitoring Program

- Provide a baseline against which to judge success of new zonation and increased patrols
- First year focus on Bunaken Island only, with emphasis on comparison between zones
- Benthic habitat monitoring using manta tow and line intercept transects
- Fish and fishery monitoring to be implemented in collaboration with WWF-Wallacea with support of TNC

## Scientific Monitoring Program

- 144 tows and 36 transects completed
- Average hard coral cover of 44.7%, other benthic live cover of 13.1% (Komodo: 19% hard coral cover in 1998)
- No significant differences between zones-important mgmt implications!
- MANY new hard coral recruits observed – strong indications of active recovery
- Dead coral consisted mostly of standing dead, not rubble – excellent outlook for recovery

## Towards true co-management of TNB... Bunaken National Park Management Advisory Board (BNPMAB)



## BNPMAB Composition

- Established by Governor's Decree #233/2000, sworn in by Minister of Forestry
- 15 seats on board: 8 non-governmental, 7 governmental
  - Vice Governor SULUT
  - 5 village representatives from FMPTNB
  - National Park Office
  - WALHI (NGO)
  - Tourism Dept.
  - Fisheries Dept.
  - Local University
  - Private Sector (NSWA)
  - Environmental Dept.
- Executive Secretariat for operational activities



## BNPMAB: 2 Primary Functions

- Coordination of all policies and activities of government agencies and NGO's working in TNB
- Formulation and funding of conservation programs for TNB



## BNPMAB: First year priorities



- Establishment of park entrance fee system
- Expansion of Joint Patrol System
- Continuation of zonation revision process
- Develop conservation education program in 21 villages
- Implement trash collection program on Bunaken Island

## BNPMAB: Future Plans



- Environmentally-friendly village development programs
  - Village piers, water supply and sanitation systems
- Development and promotion of alternative ecotourism
  - Manado Tua volcano climb, dugong and mangrove tourism
- Conservation information centers in all villages



## BNPMAB: Funding Sources

- TNB entrance fee system (PERDA SULUT No. 14/2000)
- Grants from international donors (WWF, NRM, dll)
- Annual budgets of agencies included in BNPMAB



## TNB Entrance Fee System

- Established by Provincial Law
- Dual system
  - Foreign (numbered plastic tag system), Rp 75,000/year
  - Domestic (ticket system), Rp 2500/day
- Distribution of proceeds
  - 80% BNPMAB
  - 20% National, provincial, district, city govt
- Projected revenues of Rp 1 billion (US\$100,000) per year

## TNB Entrance Fee System

- Developed through close consultation with BTNB, private sector, provincial government and national government agencies
- Fees reflect value of resource to user (willingness to pay surveys)



## A Look to the Future...



## Bunaken as an MPA “Center of Excellence”

- Training center for other Indonesian MPA’s
  - Wakatobi, Taka Bone Rate
  - Komodo, Bali Barat
- Model for development of new MPA’s
  - Lembeh Strait, Sangihe-Talaud
- Plans for cooperation with WWF, TNC, CRMP, Packard
- Strategic position in the Sulu-Sulawesi Seas Ecoregion – a marine biodiversity hotspot and established priority region, and now a proposed Global Marine Heritage Site and ICRAN pilot site.

**Thank You!**

