

# The Coral Triangle & Coastal Community Development through Sustainable Integrated Aquaculture



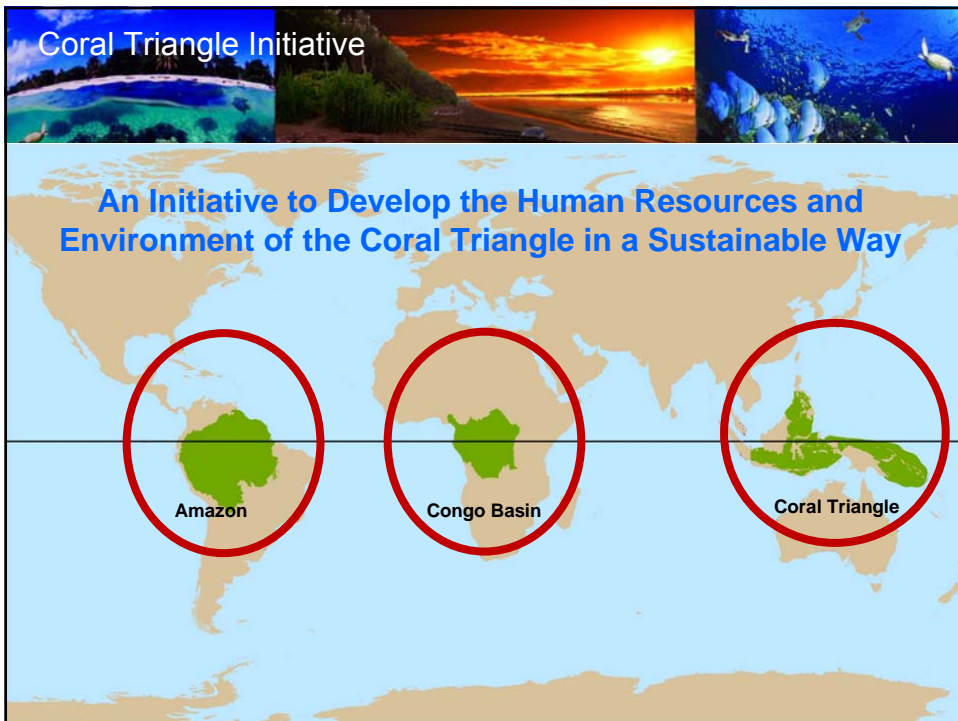
*Prof. Dr. Syamsul Maarif*  
Directorate General, Marine, Coasts and Small Islands  
Ministry of Marine Affairs and Fisheries

*Jamaluddin Jompa, PhD*  
Executive Secretary of COREMAP  
Ministry of Marine Affairs and Fisheries



## *Outline*

- Coral Triangle Initiative
- Coastal Community Development
- Sustainable Coastal Aquaculture
- Potential roles of Sea Partnership Program (*Programm Mitra Bahari*)



## DEVELOPMENT CHALLENGES FACING INDONESIA



- **Economy is Resource Dependent**
- **Resource Base is Rapidly Degrading**
- **Decentralization and Globalization are Increasing Pressure on Resources**
- **Institutional Relationships are still weak**

## INTERNATIONAL IMPORTANCE AS ARCHIPELAGIC NATION



- > 81,000 km coastline (globally 2<sup>nd</sup> longest)
- ± 17,504 islands
- 5.8 million square km EEZ (3x land area)
- Includes 37% of world's total fish species
- Global center of marine biodiversity (e.g. > 70 genera of hard corals)
- 18% of world's coral reefs and largest exporter of marine ornamentals in the world

## DOMESTIC IMPORTANCE AS an Archipelagic NATION



- 287 out of 440 cities/district are in coastal areas
- ± 7000 villages are in the coastal areas
- 60% of Indonesia's >230 million population within 50 km of the coast
- Of this population 80% engage in marine resource dependent activities
- On average fish products contribute 2/3 of animal based protein uptake of Indonesians
- Emphasis on marine contribution to GDP
- 24% of GDP from marine industries including Oil & Gas

## *CTI on Coral Reefs, Fisheries & Food Security - Outline*



Potential of the CTI Area

Threats and Challenges

Objectives of CT Initiative

Developing Partnerships

### Potential of the CT Area

CT area is equivalent to a “Marine Amazon”, as the centre of Marine Biodiversity and Marine Abundance on the Planet

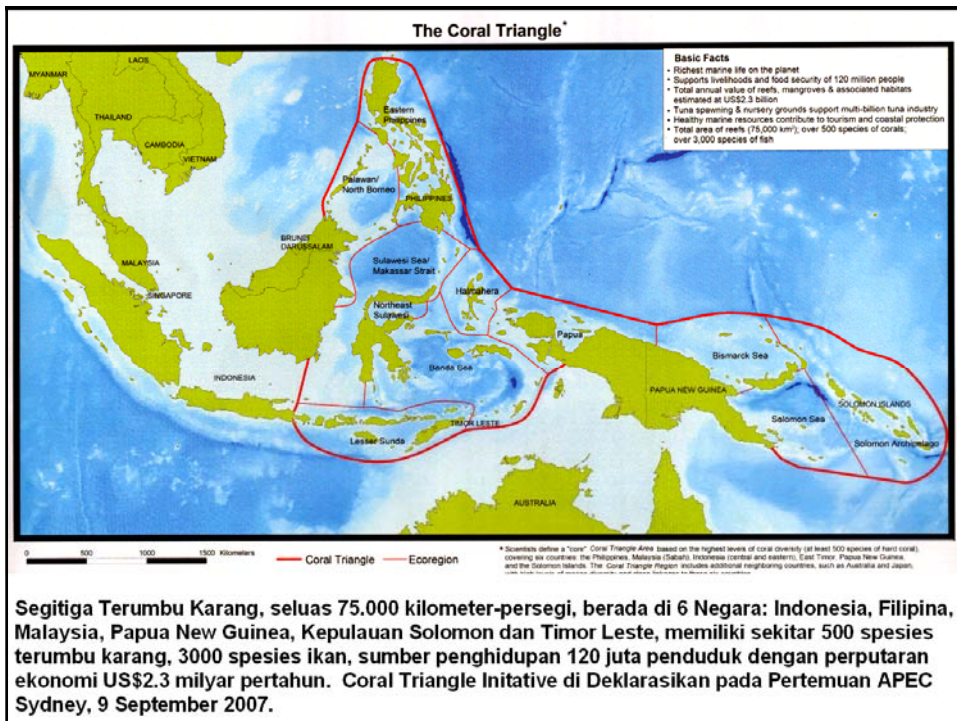
It possesses marine resources which support the lives of more than 120 million people

A marine area which has significant tourism potential

Important breeding and feeding area for tuna and supports the largest tuna fishing industry in the world (about \$ 3 billion/year)

Important habitat and migration route for many threatened species





## Sensitive Area

## Threats and Challenges

CT Area is very sensitive to many threats, non-ecofriendly methods of exploitation, such as overfishing, destructive and illegal fishing, pollution and climate change





**Need for an initiative that will give optimal protection against the existing threats, and is able to optimize the potential benefits sustainably**

## Objectives CT Initiative

### *Focus of the CTI*

- Identify important priority seascapes as good examples of sustainable management in each country;
- Develop networks of marine conservation areas (MPA Networks)
- Develop ecosystem-based fisheries management and eco-tourism; and
- Develop sustainable funding, capacity building, and involve the private sector



### *Develop a Global Coalition*

## Developing Partnerships

President Yudhoyono obtained a commitment to the CTI at COP 8 at CBD (2006)

President Yudhoyono wrote a letter to the Heads of Government of the CT6 plus America and Australia on CTI (August 2007).

CTI included in the APEC Declaration on Climate Change, Sydney, Australia (September 2007).

CTI Senior Officials Meeting (SOM) on 6-7 Dec 2007 in Bali with Objectives: (1) Reach a *common understanding* on CTI; (2) Reach agreement on the principles and main components of the CTI Action Plan; (3) Discuss the key steps to be taken to implement the Action Plan.



## Needs:

## Developing Partnerships



Working Framework for CTI

Strong Cooperation between the 6 governments in the *Coral Triangle* (CT6) area

Concrete Political Commitment both Regionally and Nationally at Highest Level



Effective Programs

Significant Long-term Funding Commitments

Roles for the Multi-parties which includes the private sector

## Implementation Steps



Draft Proposal for the CTI Action Plan at the National Level

Draft Proposal for the CTI Action Plan at the Regional Level

Developing concrete International Cooperation

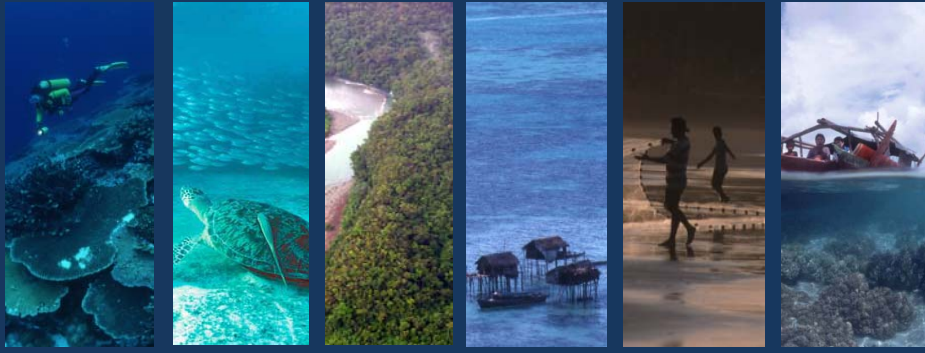


Facilitate longterm funding commitments

Joint Declaration in 2009 and firm Implementation Plan

# Coastal Community Development

- Background
- MMAF Initiatives in Coastal Management
- Major Projects



## Background

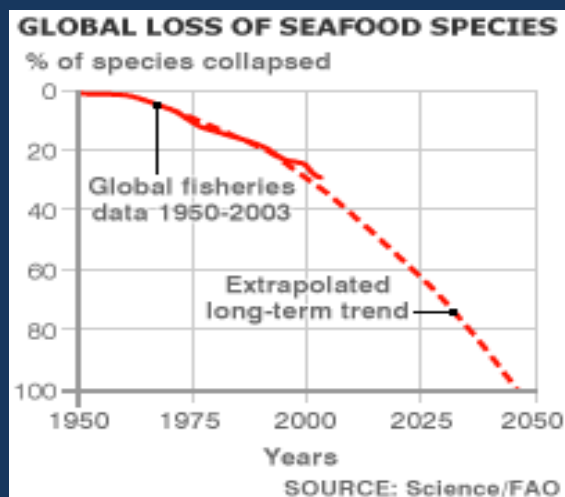
- Commitment to Millennium Development Goals – health, education, poverty reduction, food security – by 2015
- Devolution of responsibility for Coastal Resource Use & Management to Districts (0 – 4 nm) and Provinces (4 – 12 nm) - 1997
- New Fisheries Law (2004) and Coastal Management Law (2007) reflect this shift



## COASTAL FISHERS

- **Fishing - Occupation of last resort due to:**
  1. *Population Growth*
  2. *Limited Employment Opportunities*
  3. *Lack of Land and Financial Resources*
  4. *Open Access Fisheries*
- **Number of coastal fishers has increased by more than 40% over the last 10 years.**

## Consequence of weak fisheries management??



Worm B., E.B. Barbier, N. Beaumont, J.E. Duffy, C. Folke, B.S. Halpern, J.B.C. Jackson, H.K. Lotze, F. Michell, S.R. Palumbi, E. Sala, K.A. Selkoe, J.J. Stachowicz & R. Watson 2006. Science 3 November 2006: 787-790.

## MAFF Initiatives in Coastal Management

1. Most fishermen are small-scale, their vessels and gear not regulated - vessels over 5 grt licensed by District
2. Fisheries Management of inshore resources limited to
  - Vessel & gear restrictions
  - Protected species (eg turtles, dugong)
  - National Marine Parks (eg Bunaken, Take Bone Rate), Marine Management Areas, Marine Protected Areas, local no-take areas - currently > 8 million ha, target 10 million ha by 2010
3. Sustainable Environmental Management – district coastal management plans, replanting mangrove areas, etc
4. Community Development – clean water supply, alternative income generating activities – including aquaculture

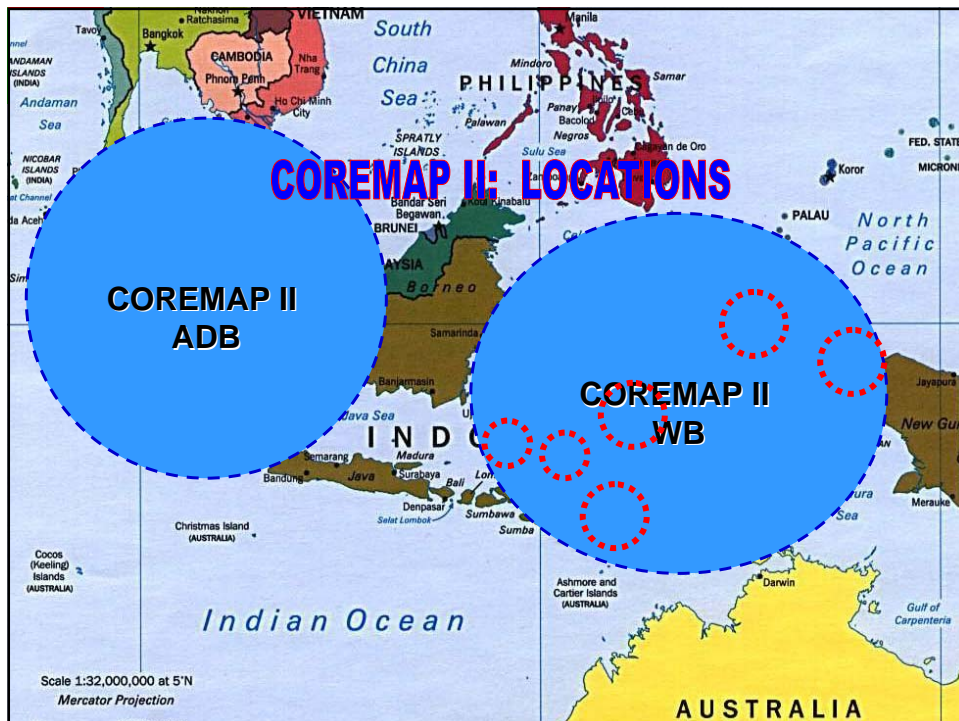
## MAFF Initiatives in Coastal Management

### District Fisheries Management and Monitoring Plans

- Need for Representative Network of Interconnected No Take Areas (10% of total reef area) with High Coral and Fish Species Diversity
- Need for improved fisheries management and monitoring – ↓bombing, poisoning, protected species, effort limitation, Territorial Use Rights

## Major MMAF Projects in Coastal Management

1. Coastal Community & Fisheries Resources Management Project (CoFish) - ADB
2. Marine & Coastal Resource Management Project (MCRMP) - ADB
3. Coral Reef Rehabilitation and Management Program (COREMAP I & II) – 8 provinces, 15 districts – ADB, World Bank – 17 year program – 1998 - 2015
4. Sustainable Aquaculture Development for Food Security & Poverty Reduction – 4 Provinces, 5 Districts – 2007 - 2013



## Sector Issues

## Sustainable Coastal Aquaculture

- Most fish farmers are poor
- Degraded environment
- Low growth, low productivity – poor facilities, seed, disease
- No credit available or interest rates prohibitive
- Lack of market chain – ice, processing, buyers
- Poor technical assistance & support services – govt, private
- Lack of aquaculture extension service & market information

## Lessons Learnt

## Sustainable Coastal Aquaculture

- Clear roles for DGA, District, Private Sector
- Reliable supply of seed or fingerlings – additional hatcheries
- Resource management, environment, aquatic health
- Simple (low cost, low inputs) culture system at individual, farmer community level
- High density stocking requires waste water treatment & laboratory support
- Access to credit or production inputs for small-scale farmers
- Existing supply and market chain for product needs to exist
- Need for technical advice/extension service & market info.
- Poverty reduction – access to clean water, improved housing, health & education services

## Lessons Learnt continued .....

## Sustainable Coastal Aquaculture

- Phased approach .... when skills/experience lacking or new species introduced / new markets
- Private sector participation with inputs, advice, market outlets essential
- Capacity building & training of farmers/extension staff essential
- Most project-driven initiatives unlikely to be sustained in long-term

## Targets

## Sustainable Coastal Aquaculture

- Increase fish, shrimp, mollusc, seaweed production – sustainable system that also protects the environment
- Enhancement of natural fish stocks which are overfished
- Improve product quality for human consumption
- Improve supporting infrastructure and services – canals, roads, inputs/outputs and support services
- Increase employment and incomes

# Project on Sustainable Coastal Aquaculture in Indonesia



## Project Design

## Sustainable Coastal Aquaculture

### Activities to Enhance Aquaculture Production

#### 1.1 Social Preparation and Community Empowerment

- Mobilize and organize communities.
- Train communities, women and men on various aspects of aquaculture production and management, and family/community matters
- Construction of community water supply facilities and access roads

#### 1.2 Fish Production Enhancement

- Train fish farmers on improved aquaculture production and management
- Establish demonstration models for different aquaculture technologies and species
- Rehabilitate/improve brackishwater fishponds
- Establish mariculture cages and seaweed rafts

#### 1.3 Community-Based Culture-Based Fisheries

- Identify and establish fish species and stock enhancement sites
- Conduct fish restocking activities

**Activities of Aquaculture Support Services****2.1 Extension Service Support and Facilitating Credit Access**

- Hiring and training of community-based extension workers (CEWs)
- Provision of extension services to support aquaculture production
- Improving creditworthiness of organized fish farmer groups
- Training of fish farmers and women on financial/credit management
- Provision of production inputs assistance to poor fish farmers

**2.2. Post-harvest Support**

- Establishment of fish post-harvest and processing facilities
- Training of fish farmers and women on post-harvest handling and others
- Support for regular market development and promotion activities
- Launch of fish-consumption campaigns and dissemination of market information

**2.3. Fish Health and Environmental Management and Research Support**

- Establishment or upgrading of water-quality and fish-disease laboratories
- Regular monitoring of water quality and control of fish disease
- Support for various applied research activities

*Keys to Success*

- Small-scale groups of farmers using same species, production system in an area = sufficient commercial volume produced
- Provision of training & extension service
- Assistance with supply of production inputs

## **NEXT CHALLENGES FOR ROGRAM IMPLEMENTATION IN AUTONOMY ERA**

- Central Government has Low Capacity for Regional Level Action
- Regional Capacity for Regional Level Innovation need to be improved
- Institutional Relationships need to be strengthen



## **Sea Partnership Program**

---

### **Vision of Sea Partnership Program:**

**Acceleration and sustainability  
development in marine and fisheries**



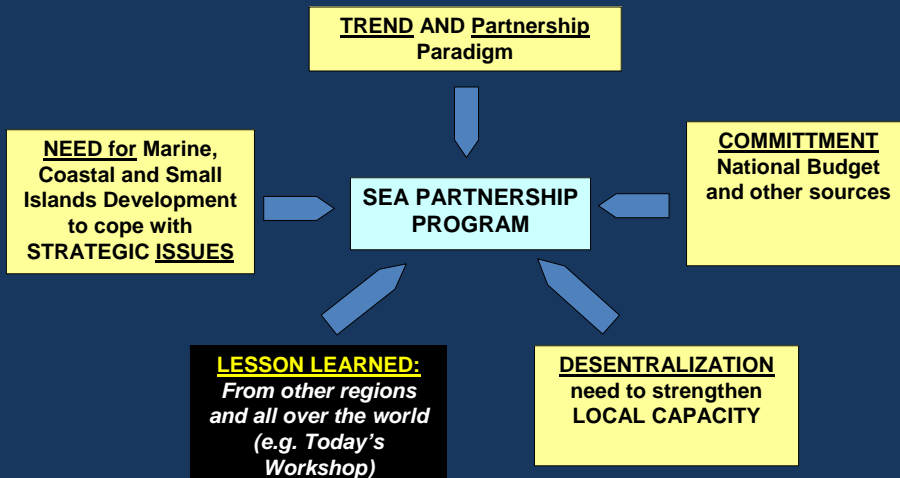
## **ROLES OF SPP IN MARINE AFFAIRS AND FISHERIES DEVELOPMENT**

- To link among partners/stakeholders to a share
- To support regional autonomy policy implementation, through strengthening local capacity to manage and carry out development in their region (provincial and district level)
- Partnership, collectiveness, and synergism among stakeholders could be a strong capacity and potency to manage natural resources for local and national development
- Adaptive research, a a PMB components, could be a bridge to synchronize universities' products/works with local needs.
- Opportunity to accommodate local priority, through proposal development

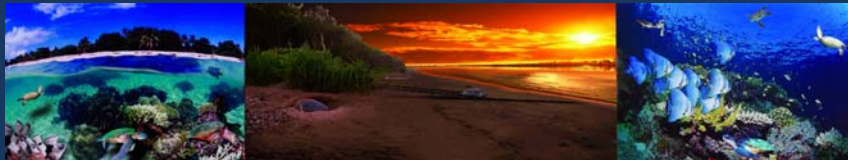
## **BASIC CONCEPT OF INDONESIAN SPP**

- Partnership among MMAF, Marine Affairs & Fisheries Agency in Provincial and District level, Universities, Private Sectors, Non-Government Organizations and Community Group
- Outreach, Extension, Training and Transfer of Knowledge and Technology, Seconded Staffs to support Policy Recommendation and Applied Research
- Partnership = Contribute each partner's potencies
- Partnership concept of SPP → Share Contribution, Equity and Transparency
- Coastal Community Development : to improve and & strengthen capacity, facilitate to any access, motivation, participatory, improve capability and skills to enhance sustainable development

# SPP, CONTEXT OF SOLVING PROBLEMS



**Have a nice and productive workshop**



**TERIMA KASIH**