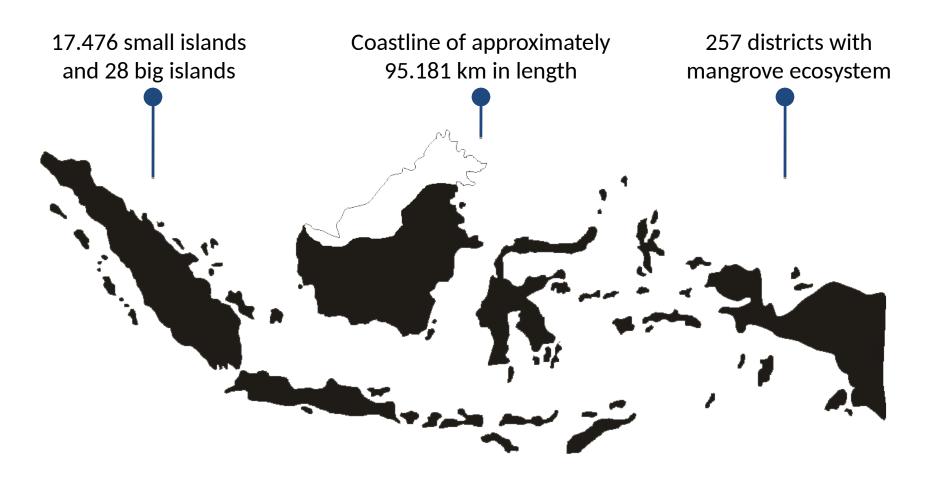


#### Dr. Muhammad Firman

Presented at The International Conference on Sustainable Mangrove Ecosystem Bali, April 2017



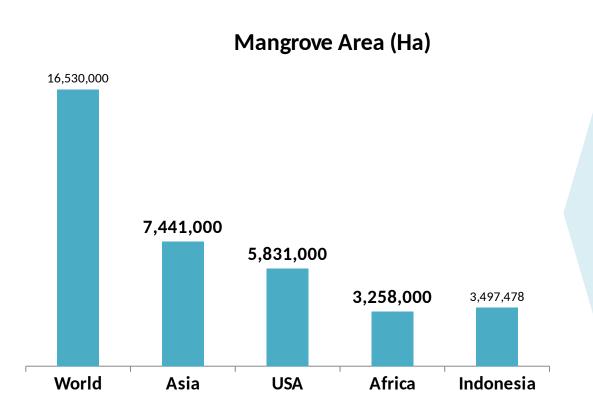
## Background





## Mangrove Area

Indonesia has the largest mangrove ecosystem and the highest biodiversity in the world.



- 19% of world's mangrove forests
- Mangrove area 3,48 million Ha
  - Degraded condition1,81 million Ha
  - Good Condition 1,67 million Ha

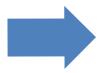
Source: MoEF of Indonesia



## Mangrove Issue in Indonesia

# Threats from human activities:

- Timber exploitation
- Land use change
- Overfishing in mangrove ecosystem
- Environmental pollution



# Threats from natural activities:

- Tsunami
- Climate change



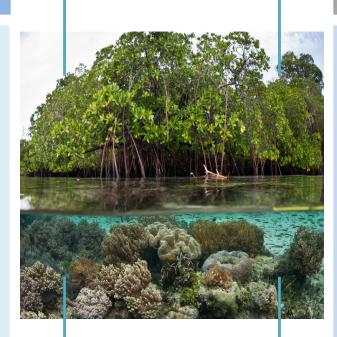


### Mangrove Ecosystem Management

#### **Good Condition**

#### Maintain its existence:

- 1. Sustainable management
- 2. Economic improvement
- 3. Abrasion/Intrusion prevention
- 4. Ecotourism management
- 5. Forest protection
- 6. Carbon trading



#### **Degraded Condition**

#### Restoration/rehabilitation:

- 1. Land and forest rehabilitation & mangrove ecosystem maintenance
- 2. Community empowerment
- 3. Decreasing land conversion
- 4. Protection zone



### Regulation on Mangrove Ecosystem Management

The Law Number 41 Year 1999 concerning Forestry.

The Government Regulations Law Number 76 Year 2008 concerning Forest Rehabilitation and Reclamation.

The Presidential Decree Number 73 Year 2012 concerning National Strategy on Mangrove Ecosystem Management.

The Authority of Minister of Environment and Forestry of Indonesia Law Number P.09/Menhut-II/2013 *jo* P.39 Year 2016 concerning Procedures for Implementation, Supporting Activities and Incentives for Forest and Land Rehabilitation.

The Director General Regulation Number 8 Year 2016 concerning Technical Guidance on Forest and Land Rehabilitation Activities.



### National Planning Related to Mangrove

#### 2017

#### 2015 - 2019

#### 2013 - 2019

1. Developing
One Map
Mangrove
(National
Level)

2. Middle Term (5 years) National Plan for Land and Forest Rehabilitation of Mangrove (25000 Ha by MoEF budget) 3. National Strategy Plan and Policy on Mangrove Ecosystem Management (10 years).



## Goals of The Planning

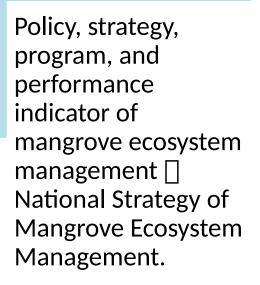
#### 2019

One Map Mangrove Indonesia (Java, Sumatera, Sulawesi, Bali Nusra, Maluku, Kalimantan, and Papua).

#### 2019

Degraded area will be rehabilitated by applying technology with environment friendly







## *Implementations*

- Mangrove rehabilitation has been realized in 2010-2016: 50.000 ha
- Development of **Non-Timber Mangrove Products** and environmen-tal services.
- Dissemination of mangrove information (socialization, regulations, guidelines, leaflets and magazines).
- One map mangrove (Java in 2013, Sumatera 2014, Sulawesi 2015, and Bali Nusra Island in 2016).
- Establishment of **Mangrove Working Group** in National/ Provincial/ District-City level.



### Mangrove Rehabilitation

Mangrove rehabilitation has been implemented by Ministry of Environment and Forestry through various programs.



- 1. National Movement for Forest and Land Rehabilitation (GN-RHL/Gerhan);
- 2. One Man One Tree (OMOT);
- 3. One Billion Indonesia Tree (OBIT);
- 4. Community Nursery Farm (KBR); and
- 5. Cooperation with donors institution such as JICA and KOICA.



### Mangrove Rehabilitation - Best Practices





Rehabilitation in Jakarta

Rehabilitation in Bali



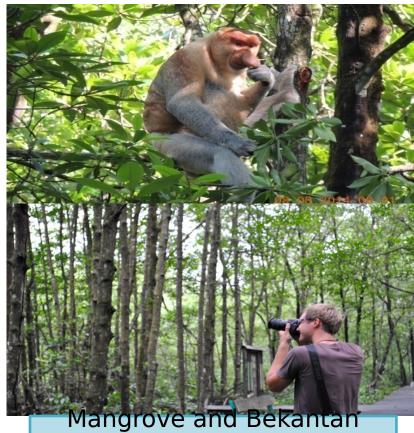
#### Non Timber Product

Natural dye, mangrove crakers, body soap, shampoo, etc. This kind of produts have been developed by National Mangrove Working Group in Surabaya, Pemalang and Medan.





#### **Ecotourism**



Conservation area in Tarakan

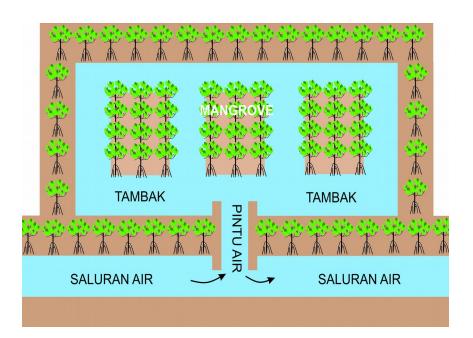


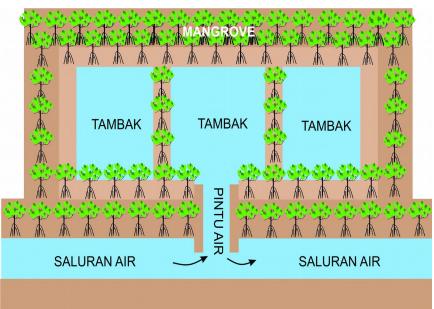
Ngurah Rai Forest Park, Bali



### Silvofishery

The role of silvofishery is as a pattern of mangrove ecosystem management based on mangrove cultivation and sustainable aquaculture in order to improve the welfare of people around the region.





Silvofishery Alternative Models



## Silvofishery



Silvofishery in Deli Serdang, North Sumatra



Silvofishery in Petarukan, Pemalang District



### Mangrove Working Group



National/ Provincial/ District - Mangrove Working Group. Until now there were 27 Working Group has been established.



- Mangrove Forest Management Center (BPHM) region I and II (2006-2015).
- ✓ Watersheds
   Management and
   Forestry Agency in 34
   Districts.



### **ASEAN Mangrove Network (AMNET)**

Indonesia has initiated the establishment of ASEAN Mangrove Network (AMNET) since 2012 and the effort supported by JICA through the Technical Cooperation Project (2012-2014), namely: MECs (Mangrove Ecosystem and Sustainable Use in the ASEAN Region)

AMNET is expected to encourage cooperation and facilitate ASEAN countries to:

- a. Improve coastal ecosystem management including mangrove (Utilization, Restoration/Rehabilitation, Protection and Conservation)
- b. Revitalize mangrove ecosystem function including; nurturing of fishery resources, protections from natural disasters, flora and fauna conservation, Non forest timber product resources for industries and tourism services)
- c. Dromata battar utilization of manarova accoustom custainably for livelihoods of



#### Recommendations for Sustainable Mangrove Management

- Minimizing the land use change of mangrove forest area through consistent law enforcement.
- 2 Maintaining the existing of mangrove.
  - Expanding the existing of mangrove in Indonesia through cooperation with government and non-government organization.
    - Increasing community engagement in mangrove management in order to increase community welfare.
      - 5 Developing community mangrove management activities.

# THANK YOU

TERIMA KASIH

