



# Possible Linkage with the UNESCO's Man and Biosphere Program: *Biosphere Reserve* in Indonesia

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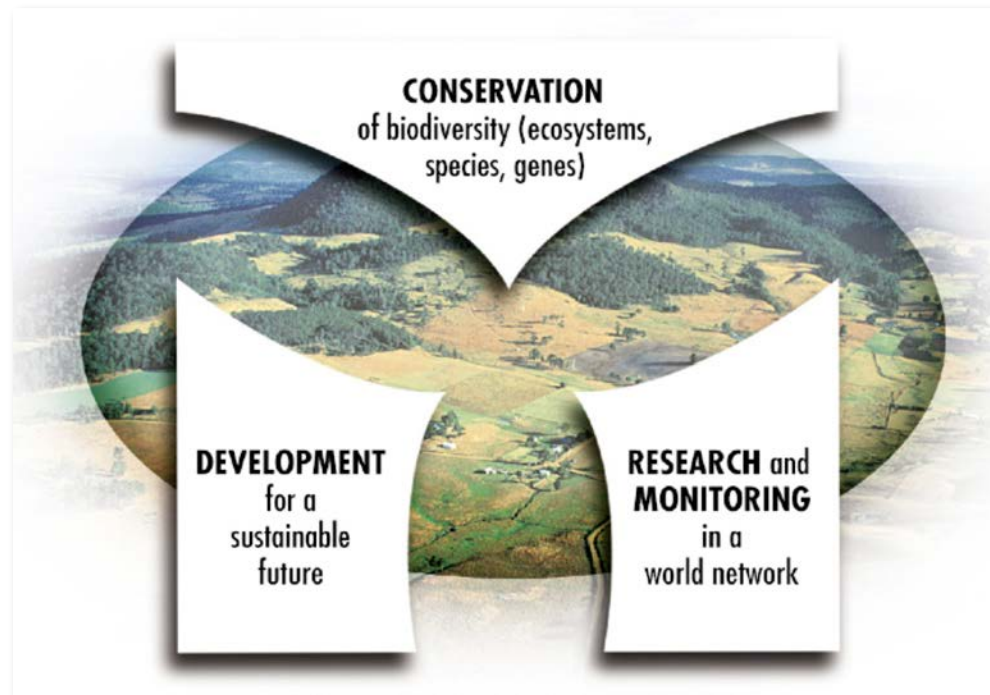
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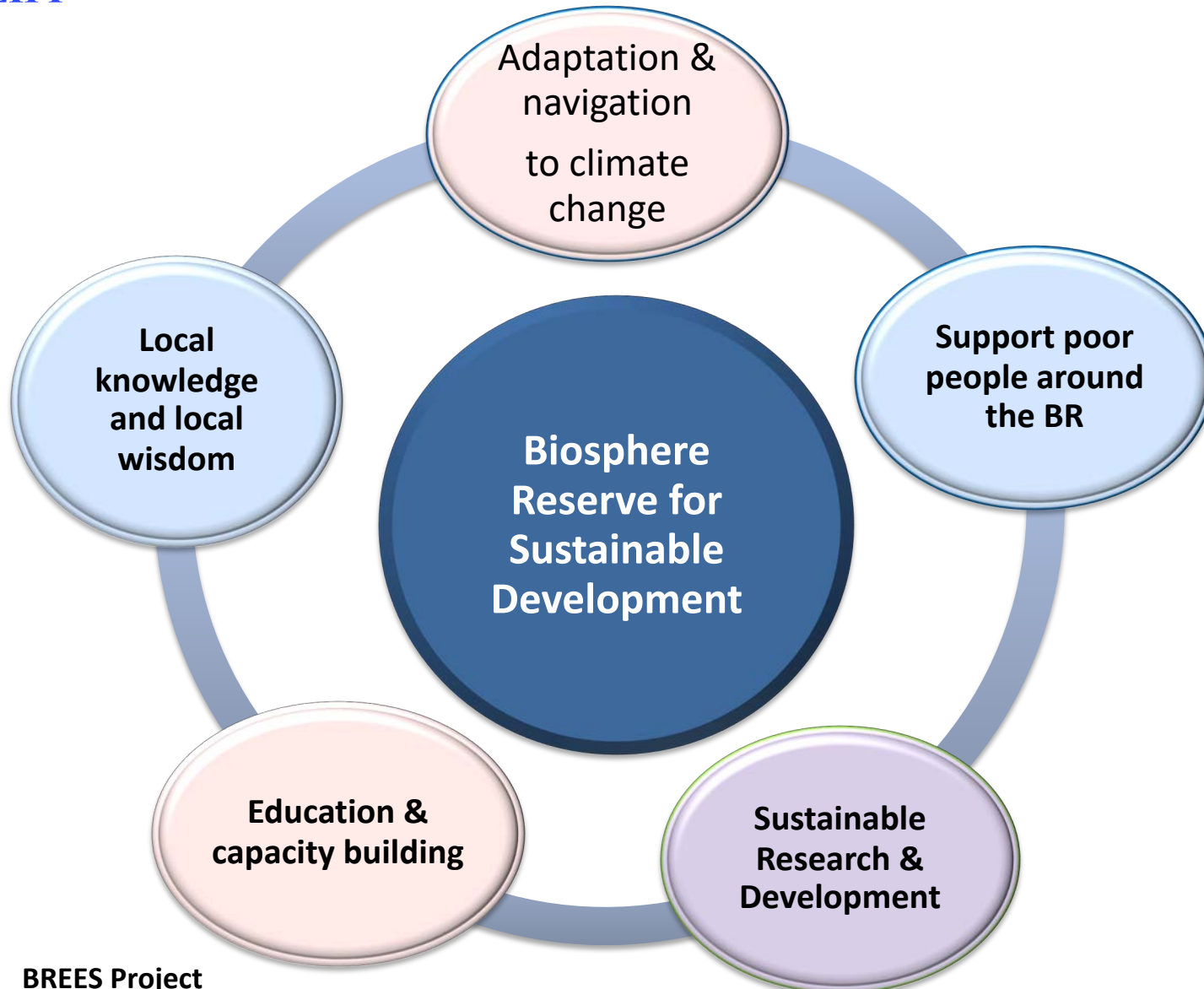
# What is *Biosphere Reserve* ?

the **biosphere reserve is a** concept of site management to harmonize the needs for **biodiversity conservation, socio-economic development & logistic support**, the concept created by the **UNESCO Man and the Biosphere Program in order to promote a balanced relationship between human and the nature**





# Balance Relationship between Human & Nature



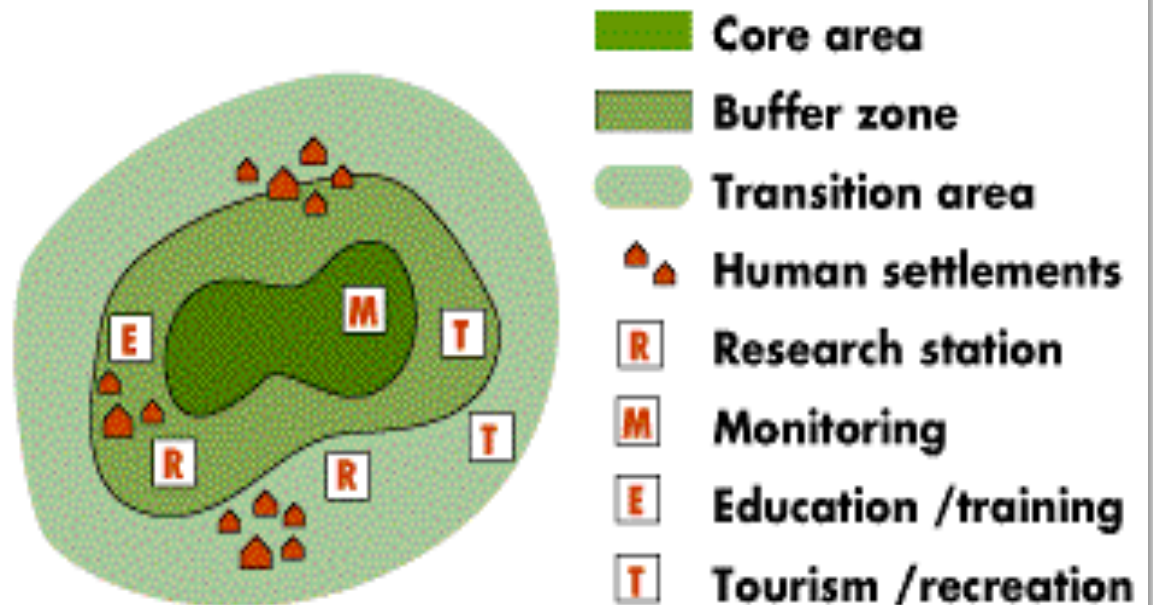
BREES Project





# Basic Concept of site management *Biosphere Reserve*

## BIOSPHERE RESERVE ZONATION





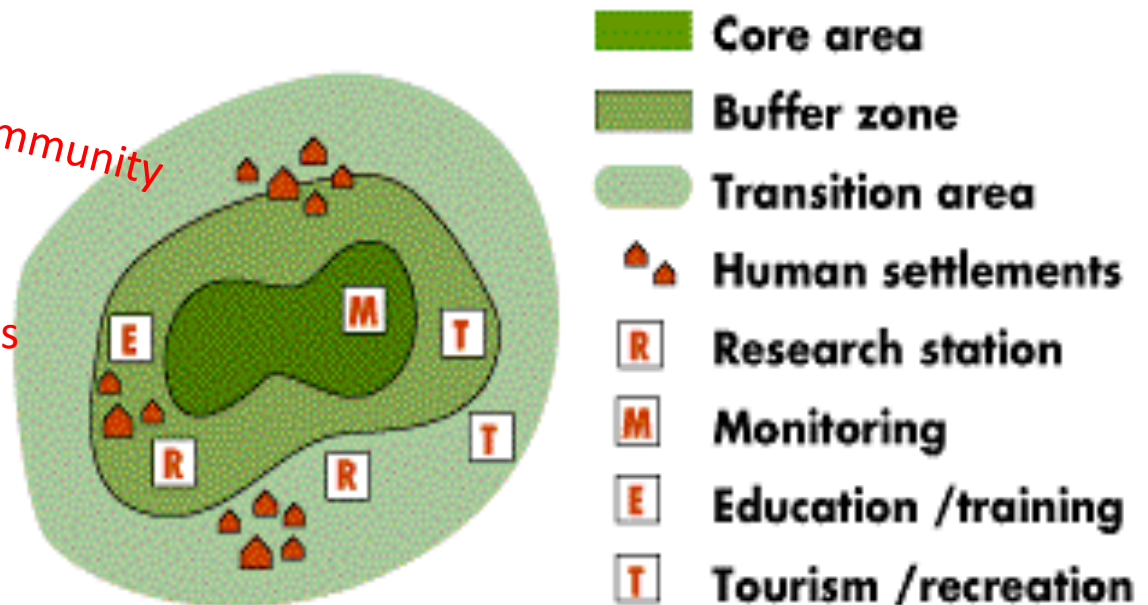
# Basic Concept of site management *Biosphere Reserve*

Direct value to local community

Value to Research &  
Science Communities

Decisions makers

## BIOSPHERE RESERVE ZONATION





There are 669 BRs in 120 countries





There are 669 BRs in 120 countries,  
**11 BRs in Indonesia (2016)**





# 11 BRs in Indonesia







# Biosphere Reserve in Indonesia (2017)



No.	Biosphere Reserve	Luas (ha)			Size TOTAL (ha)
		Strictly Conserve	Buffer Zone	Trantitional Zone	
1	Cibodas	24.500,00	54.800,00	87.700,00	167.700,00
2	Komodo	173.300,00	288.353,00	656.350,00	1.118.003,00
3	Tanjung Puting	501.988,94	264.685,77	203.023,79	969.698,50
4	Lore Lindu	217.991,18	503.738,00	1.461.263,00	2.182.992,18
5	Pulau Siberut	190.500,00	128.277,00	84.223,00	403.000,00
6	Gunung Leuser	1.094.692,00	1.494.877,52	2.705.192,12	5.290.761,64
7	Giam Siak Kecil-Bukit Batu	178.722,00	222.425,00	304.123,00	705.270,00
8	Wakatobi	54.568,00	839.732,00	495.700,00	1.390.000,00
9	Bromo Tengger Semeru-Arjuno	78.144,50	96.349,55	238.880,51	413.374,56
10	Taka Bonerate-Kepulauan Selayar	530.765,00	702.260,00	3.117.711,00	4.350.726,00
11	Belambangan	127.855,62	230.277,40	320.814,34	678.947,36
TOTAL		3.173.027,24	5.056.052,64	9.674.980,76	17.673.783,35

Conservation Area ie: National Park

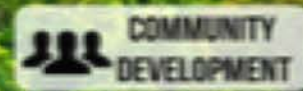
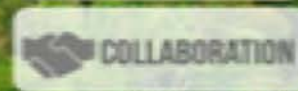
Total size of Biosphere Reserve

# Strong Government Support

## *Biosphere Reserve*

### Conservation Area as a Core Area in Biosphere Reserve in Indonesia

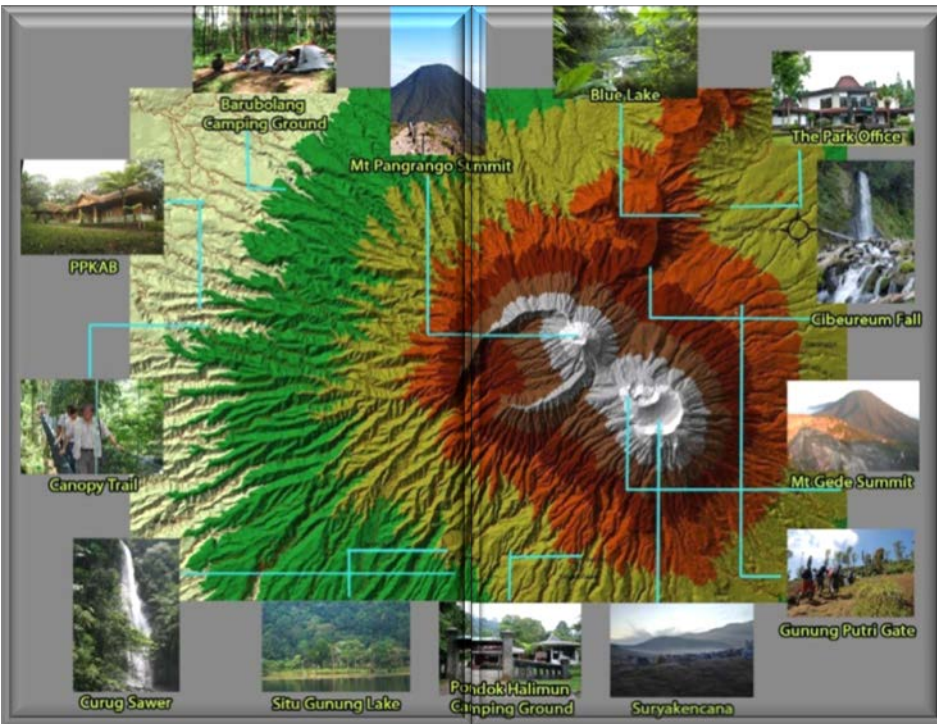
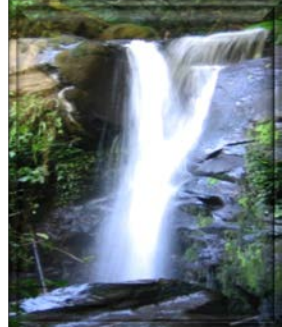
- Government Act No 5, 1990. Concerning Conservation of Natural Resources and its Ecosystems
- Managed by of Ministry of Environment and Forestry





# Mt Gede-Pangrango, West Java,

## *Cibodas BR,*



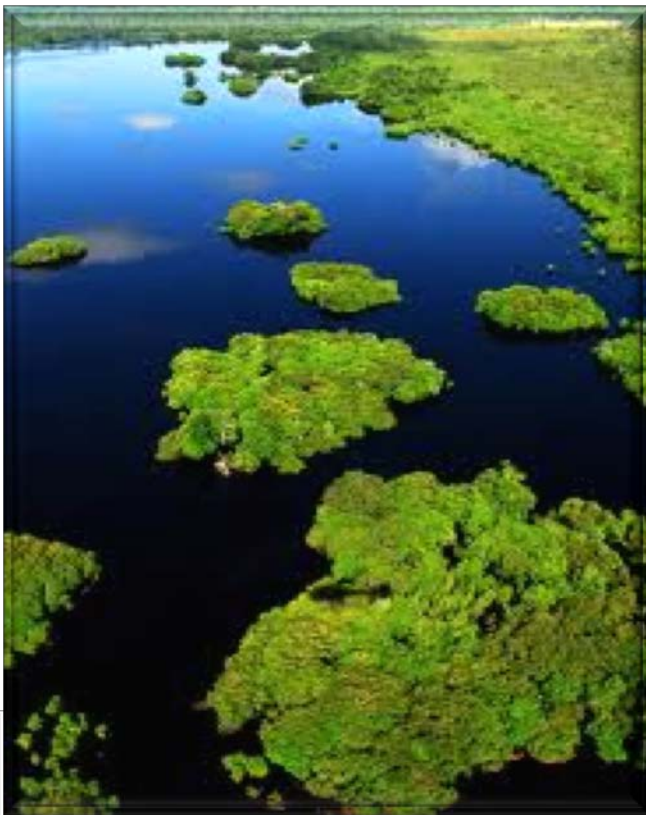
Strictly Conserve:	24.500
Buffer Zone:	54.800
Transitional Zone:	87.700
Total size:	167.700 ha

**Tourism**  
**Water sources for Jakarta**

1. Easy to access by many research centers and universities .
2. View basic information: such as Flora of Mt Gede-Pangrango NP.
3. **Guide Books of Flora Mt Gede-Pangrango NP (APBON).**
4. **On going Ecological study on Plant Diversity a long Gradient altitudinal range (APBON).**
5. Some Ecological Studies (old and new permanent plots)

Improving ecosystem management and sustainable use of biodiversity is **strongly needed**





## Giam Siak Kecil-Bulit Batu BR, Pekanbaru, Sumatera

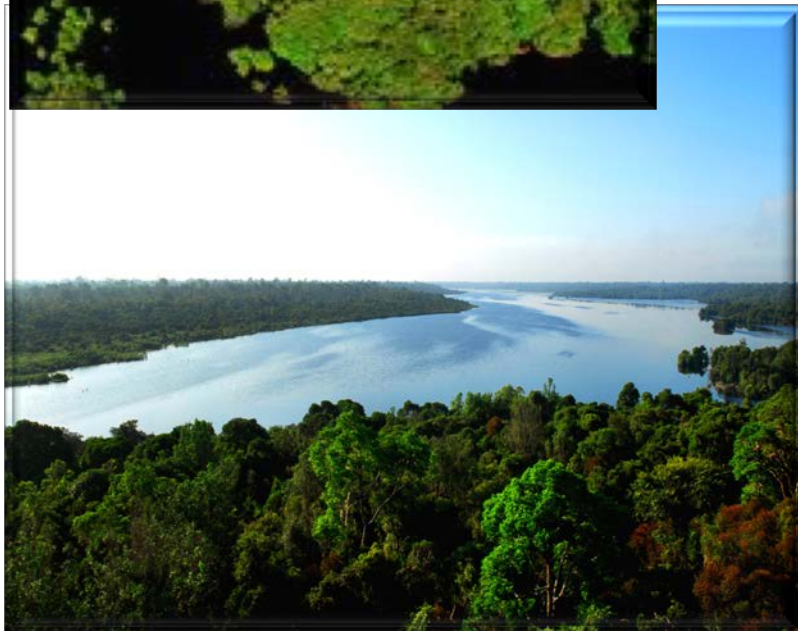
Managed by private sector-MAB Secretariat

The largest **peat land BR**

Strictly Conserve:	178.722,00
Buffer Zone:	222.425,00
Transitional Zone:	304.123,00
Total size:	<b>705.270,00 ha</b>

*Sopaheluwakan, J .et al.* Critical View on Peat Swamp Forest Fire Resilience:  
the case of Giam Siak Kecil-Bukit Batu Biosphere Reserve.

Draft Paper to be submitted to Jour of Environmental Protection. Oct 2018



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# WAKATOBI BR, South East Celebes:

Size: 1,390,000 ha

## *marine resources BR*

### Problems

- ✓ Zonation unclear
  - ✓ Weak coordination among stake holders
  - ✓ Local initiative by traditional fisherman
  - ✓ Marine Ecotourism
  - ✓ Sustainable management of small island
  - ✓ Center of marine biological study
- Part of Triangle Coral Reef Project





# Tanjung Puting BR, Borneo:

## *peat land, home of orang utan*



### Problems:

1. **Illegal Activities:** *illegal logging, encroachment, illegal mining, illegal poaching, encroachment,*
2. **Forest Fire**
3. **Human Resources**

### Program priority:

- ✓ Promoting Ecotourism
- ✓ Flagship species: orang hutan and bekantan
- ✓ Center of Orang Utan Rehabilitation
- ✓ Research Site of Kalimantan Tropical Peat Land
- ✓ Culture site of Local Dayak people





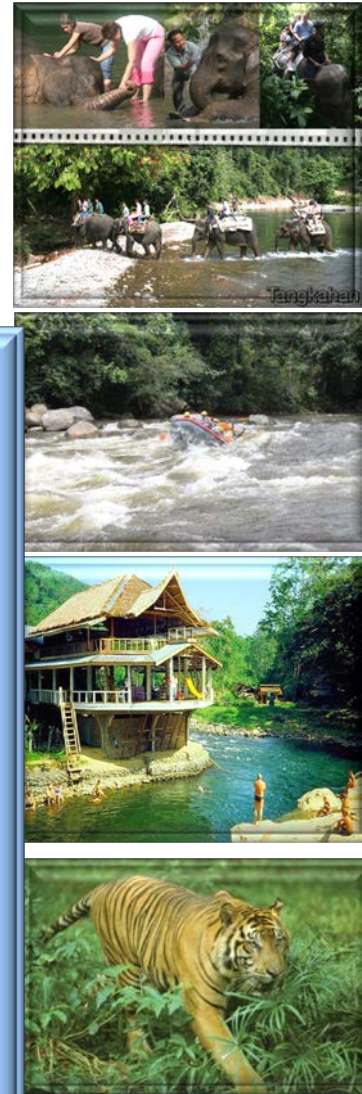
# Gunung Leuser BR, 5.290.701 ha

## *Vegetation types and home of big mammal*



### *Problems:*

- ✓ Illegal activities: illegal logging, illegal hunting, encroachment, poaching
- ✓ Forest Fire
- ✓ Zonation
- ✓ Local and Center management
- ✓ High loss of Biodiveristy



### *Agenda:*

- ✓ Center of Environmental Study
- ✓ Rich vegetation type
- ✓ Center of Study Sumatran Orang Utan



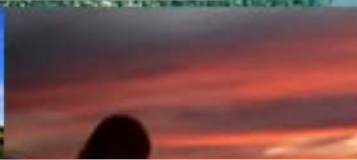


# BROMO-TENGGER-SEMERU

## *Mountainous range Biosphere Reserve*

### Problems:

- ✓ Illegal activities
- ✓ Carrying Capacity
- ✓ Forest Fire
- ✓ Active mountain
- ✓ Urbanisasi
- ✓ Land use planning and conflict



### Priority agenda:

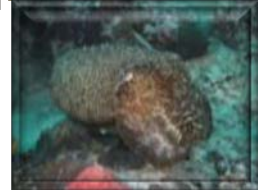
- ✓ Maintaining Ecosystem function: Water sources  
Ecotourism
- ✓ Field Study for Mountain activities
- ✓ Promote a local culture



# Common problems

## *Biosphere Reserves in Indonesia*

Needed: Promoting the advantage of BR Value for Research, Conservation, and local communities



Forest and land use conversion



Forest fire by traditional and agroforestry industries



Over exploitation of traditional used and local market



Climate change



Illegal activities, Controls mechanism



Limitation of resources and management



Harmonize local vs center policy



others



# Agenda Priorities improving BR



**Strengthen  
Management BR**



**Zonation System  
within BR**



**Capacity building**



**Controlling from  
outside interest**



**Maintain and  
improve Ecosystem  
function**



**BR Human  
Resources & Local  
community  
participation**



**BR as part of  
Regional  
Development  
Planning**



**Biological inventory  
and monitoring of  
change**





**Thank you**

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