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

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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.
Biosphere Reserve for Sustainable Development

Adaptation & navigation to climate change

Support poor people around the BR

Local knowledge and local wisdom

BREES Project

Sustainable Research & Development

Education & capacity building

Balance Relationship between Human & Nature

LIPI
Basic Concept of site management

Biosphere Reserve

BIOSPHERE RESERVE ZONATION

- Core area
- Buffer zone
- Transition area
- Human settlements
- Research station
- Monitoring
- Education/training
- Tourism/recreation
Basic Concept of site management

Biosphere Reserve

Direct value to local community

Value to Research & Science Communities

Decisions makers
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)

<table>
<thead>
<tr>
<th>No.</th>
<th>Biosphere Reserve</th>
<th>Strictly Conserve (ha)</th>
<th>Buffer Zone (ha)</th>
<th>Trantitional Zone (ha)</th>
<th>TOTAL (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cibodas</td>
<td>24.500,00</td>
<td>54.800,00</td>
<td>87.700,00</td>
<td>167.700,00</td>
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<tr>
<td>2</td>
<td>Komodo</td>
<td>173.300,00</td>
<td>288.353,00</td>
<td>656.350,00</td>
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<tr>
<td>3</td>
<td>Tanjung Puting</td>
<td>501.988,94</td>
<td>264.685,77</td>
<td>203.023,79</td>
<td>969.698,50</td>
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<td>4</td>
<td>Lore Lindu</td>
<td>217.991,18</td>
<td>503.738,00</td>
<td>1.461.263,00</td>
<td>2.182.992,18</td>
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<td>5</td>
<td>Pulau Siberut</td>
<td>190.500,00</td>
<td>128.277,00</td>
<td>84.223,00</td>
<td>403.000,00</td>
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<td>6</td>
<td>Gunung Leuser</td>
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<td>1.494.877,52</td>
<td>2.705.192,12</td>
<td>5.290.761,64</td>
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<td>7</td>
<td>Giam Siak Kecil-Bukit Batu</td>
<td>178.722,00</td>
<td>222.425,00</td>
<td>304.123,00</td>
<td>705.270,00</td>
</tr>
<tr>
<td>8</td>
<td>Wakatobbi</td>
<td>54.568,00</td>
<td>839.732,00</td>
<td>495.700,00</td>
<td>1.390.000,00</td>
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<td>9</td>
<td>Bromo Tengger Semeru-Arjuno</td>
<td>78.144.50</td>
<td>96.349.55</td>
<td>238.880,51</td>
<td>413.374,56</td>
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<td>10</td>
<td>Taka Bonerate-Kepulauan Selayar</td>
<td>530.765,00</td>
<td>702.260,00</td>
<td>3.117.711,00</td>
<td>4.350.726,00</td>
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<td>11</td>
<td>Belambangan</td>
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<td>230.277,40</td>
<td>320.814,34</td>
<td>678.947,36</td>
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<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>3.173.027,24</strong></td>
<td><strong>5.056.052,64</strong></td>
<td><strong>9.674.980,76</strong></td>
<td><strong>17.673.783,35</strong></td>
</tr>
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</table>

Conservation Area i.e: 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 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

1. Easy to access by many research centers and universities.  
2. View basic information: such as Flora of Mt Gede-Pangrango NP.  
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**

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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

Agenda:
- Center of Environmental Study
- Rich vegetation type
- Center of Study Sumatran Orang Utan

Problems:
- Illegal activities: illegal logging, illegal hunting, encroachment, poaching
- Forest Fire
- Zonation
- Local and Center management
- High loss of Biodiversity
Problems:
✓ Illegal activities
✓ Carrying Capacity
✓ Forest Fire
✓ Actives moutain
✓ Urbanisiasi
✓ Land use planning and conflict

Priority agenda:
✓ Maintaining Ecosystem function: Water sources
✓ Ecotourism
✓ Field Study for Moutain 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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