

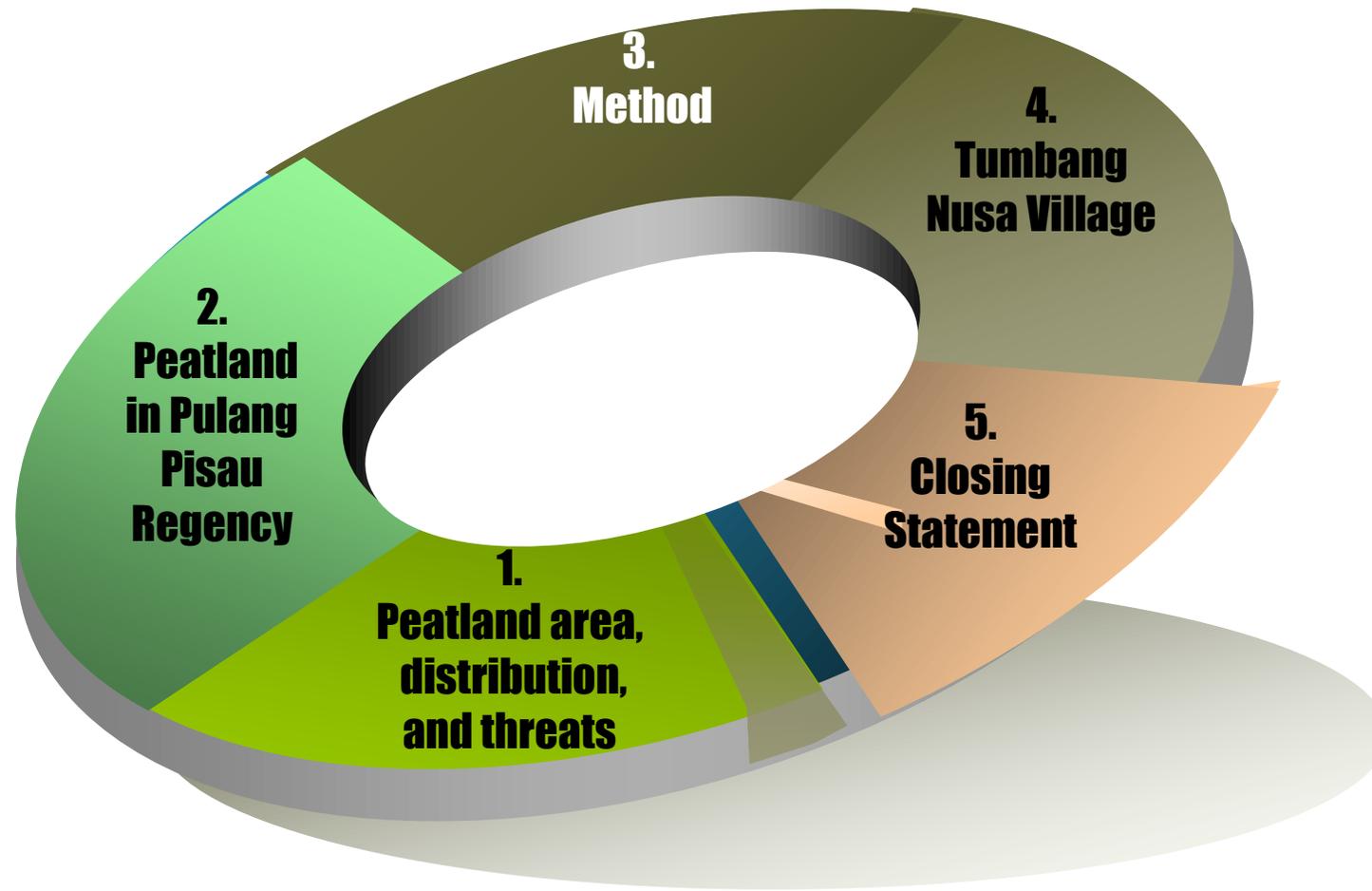
ADDRESSSSING FRAGILE PEAT ECOSYSTEMS AND IMPROVING PEOPLE'S LIVELIHOODS: LESSONS FROM INDONESIA

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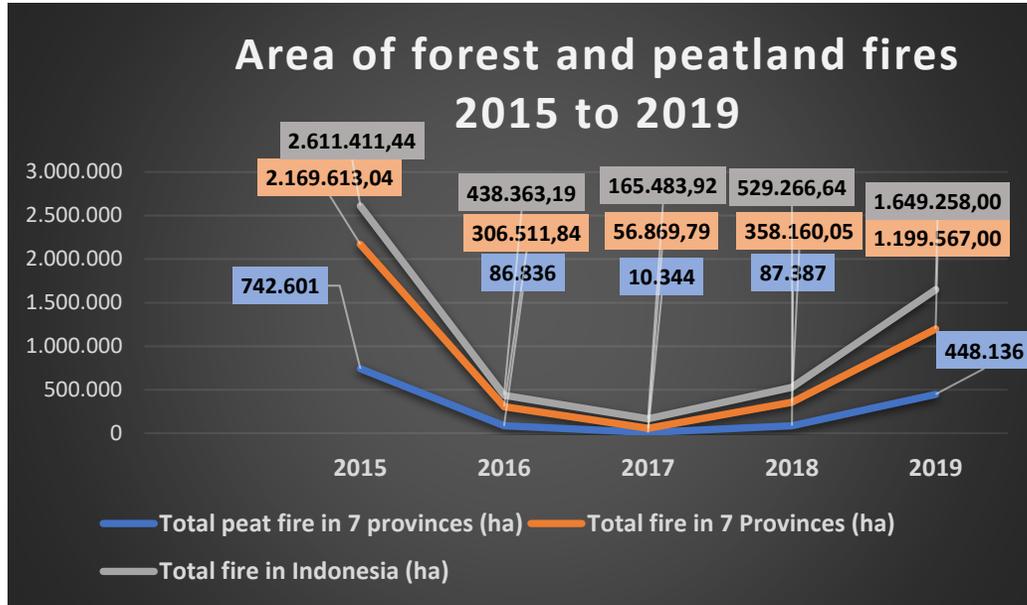
Daniel Mendham

Ramawati

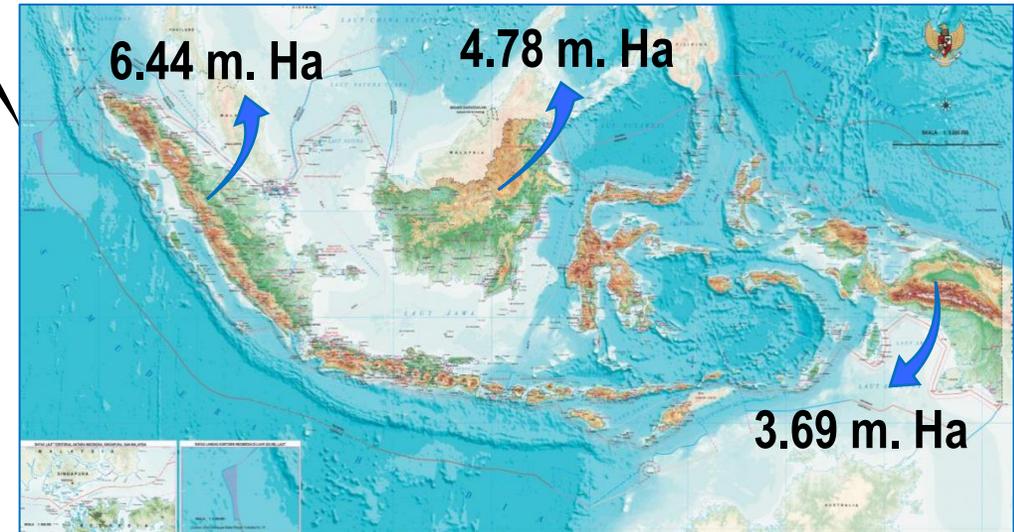
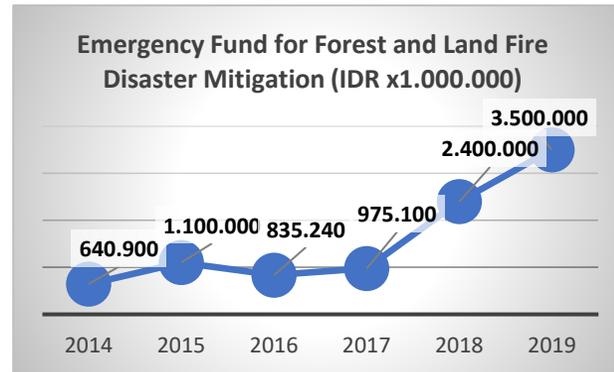
OUTLINE



PEATLANDS AREA, THEIR DISTRIBUTION, THREATS



Many regulations regarding the use of peatlands, but many peatland uses do not follow the principles of sustainable peat land use

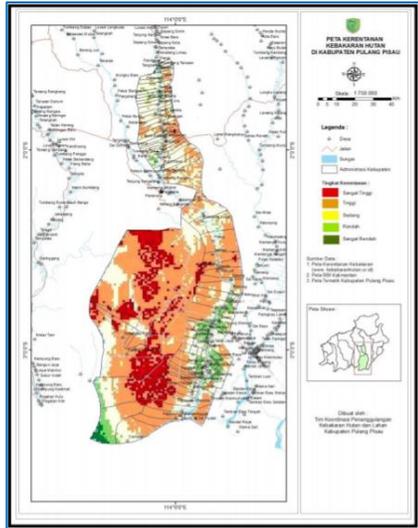


Threat

1. Peat fire disaster & haze pollution
2. Frequent flood
3. GHG emission
4. Economic loss, impacted livelihood
5. Destroyed habitat, loss of biodiversity

- Peatland area: 14.9 m ha
- 4th largest peatland in the world
- The largest tropical peatlands in the world

PEATLANDS IN PULANG PISAU REGENCY



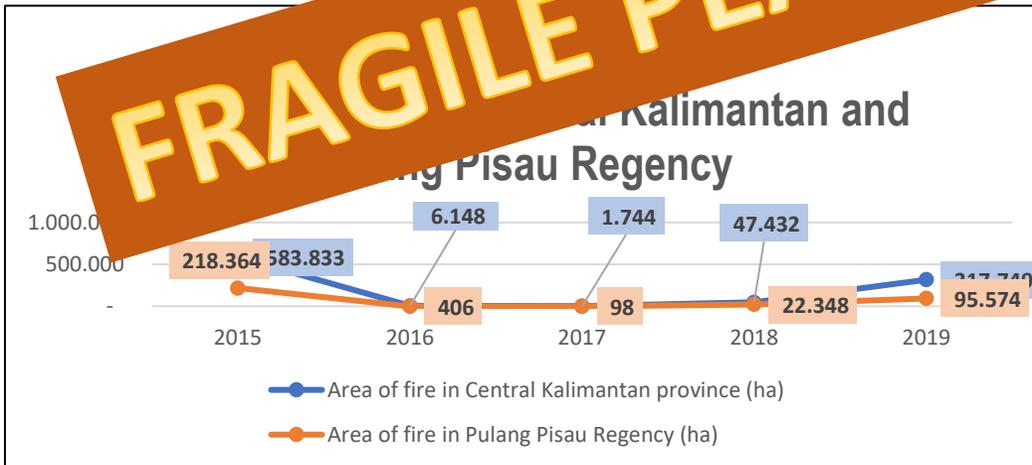
Pulang Pisau Regency

- 899.700 ha (64.4% peatland)
- 95 villages



FRAGILE PEAT ECOSYSTEM

Forest and land fire vulnerability map, Pulang Pisau Regency (Irwansyah et al., 2018)



Peat fire:

- 99% due to human factors
- Complex issues (technical, social, economic and political aspects)

- Land for food crops (ex-mega rice project), commercial commodities
- Timber and non-timber

Economic benefits

- Living space (villages-transmigrants, local)

Social benefits

- Carbon stock
- Water system stability
- Protected endemic flora and fauna habitat

Ecological benefits

Peat fire control:

Integrating fire prevention and suppression strategies, with commitments to restore damaged peatlands, as well as the implementation of no-burning policy

BRG/peat Restoration Agency (2016): Coordinating and Facilitating Restoration of damaged peatlands in 7 provinces, covering an area of 2,67 m. ha

Location : Tumbang Nusa Village

Data collection:

- March – December 2019
- PRA, FGD, deep interview

Respondents : Regency and village governments, NGOs, key villagers and village community

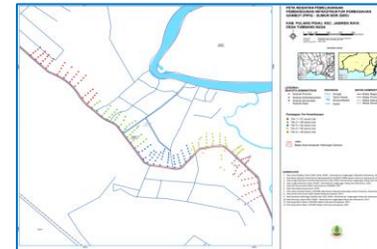
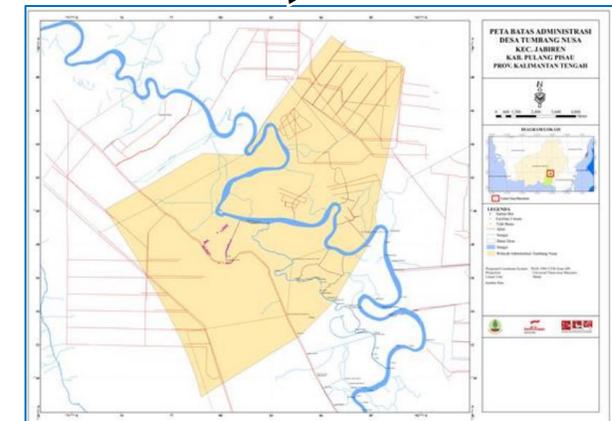
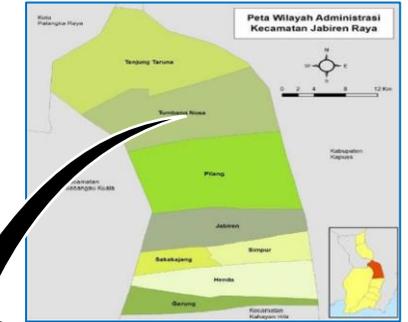
TUMBANG NUSA VILLAGE, PULANG PISAU REGENCY

- Area: 200 km², 90% is peat swamp (only around 20% is utilized)
- 284 HH (40% live on peatland, 60% live along the river on mineral soil)
- 2014-2015: more than 50% of village land is burned.

(BRG, 2018, YTS 2019)

Peat fire control in Tumbang Nusa

1. Zero burning agricultural practices
2. Cross-sector coordination to prevent and extinguish fires
3. Allocation of village funds for fire patrols
4. Peat **restoration** activities (**rewetting, re-planting, revitalization**).
5. Community empowerment and provision of economic incentives



LIVELIHOOD in TUMBANG NUSA VILLAGE

Species grown in community peatland:

- **Plantation** oil palm, rubber trees, Cacao
- **Timber/non-timber sp:** *Shorea balangeran*, *Dyera costulata* (Jelutong), *Paraserianthes falcataria*, *Aquilaria malaccensis*, *Parkia speciosa*
- **Fruit trees:** Mangifera, guava, avocado, durio, pineapple, banana, papaya, rambutan (*Nephellium lappaceum*)
- **Vegetable crops:** chilies, kale, corn, eggplant, celery, tomatoes, cassava (short, medium and long term family income)

- Land for agricultural crops, commercial commodities
- Timber and non-timber
- Tumbang Nusa peat research station (KHDTK Tumbang Nusa)



Trigona thoracica beekeeping



Lepironia articulata



Apodidae nest



Nursery



Vegetable garden



Orchards



Palm oil & Fishpond



Area for Palm oil plantation



TUMBANG NUSA PEAT RESEARCH STATION (KHDTK Tumbang Nusa)

- Since 2005; area: 5,000 ha,
- Forest type: Peat swamp forest

Species grown in Tumbang Nusa peat research station, among others:

<i>Calophyllum kunstleri</i>	<i>Gonystylus bancanus</i>
<i>Calophyllum macrocarpum</i>	<i>Horsfieldia</i> sp
<i>Combretocarpus rotundatus</i>	<i>Microcos saccifera</i>
<i>Camptosperma auriculata</i>	<i>Meliocope</i> sp
<i>Camptosperma auriculata</i>	<i>Palaquium Cochlearia</i>
<i>Cratoxylon arborescens</i>	<i>Shorea parvifolia</i>
<i>Diospyros malam</i>	<i>Shorea teysmanniana</i>
<i>Dipterocarpus caudiferus</i>	<i>Stemonurus scorpiodes</i>
<i>Dyera polyphyll</i>	<i>Tetramerista glabra</i>
<i>Eugenia</i> sp	<i>Xylopia</i> sp

Source: <https://foreibanjarbaru.or.id/>



Replanting (kabaralam.com)

CLOSING STATEMENT

To address fragile ecosystem and improve people's livelihoods, the following aspects are important to pay into consideration:

1. environmental sustainability, food availability and cash income are all important issues to ensure survival of the community,
2. Restoration Needs to Involve Many Parties. To ensure that peatland restoration is sustainable, it must be carried out in tandem with economic development and the capacity of the community to source food.
3. Successful peat restoration requires not just physical actions (blocking canals, planting trees etc.), but needs to cover economic, social, institutional and policy aspects as well.
4. The village administrative unit is a key implementation partner that is needed to realize both environmental sustainability and development through peatland restoration.



THANK YOU

