

Evidence-based Policymaking for Haze and Climate Nature-based Solutions in Southeast Asia's Peatlands

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Project Background and Objectives

- Tropical peatlands in Southeast Asia are critical carbon stores and biodiversity hotspots, central to local livelihoods but increasingly degraded by agribusiness-driven land-use change, fires, haze, and GHG emissions.
- Although peatlands are now embedded in climate and biodiversity policy frameworks and national net-zero agendas, governance remains constrained by limited and contradictory data.
- To examine the evolving role of tropical peatlands within national and regional climate and biodiversity policymaking frameworks.
- To highlight how data gaps and uncertainties affect peatland-related policy and governance decisions in Southeast Asia.

Methodology

- Analysis of **open-access peatland datasets** in Indonesia and Malaysia, including geospatial overlay and uncertainty visualisation.
- Hybrid expert workshop** involving NGOs, academia, and government stakeholders from Indonesia, Malaysia, and Singapore.
- Semi-structured interviews** with policymakers and policy-adjacent actors across the three countries.
- Focus Group Discussions (FGDs)** with peatland communities in Kuala Selangor, Malaysia and Limbung, West Kalimantan, Indonesia (marked in Figure 1).

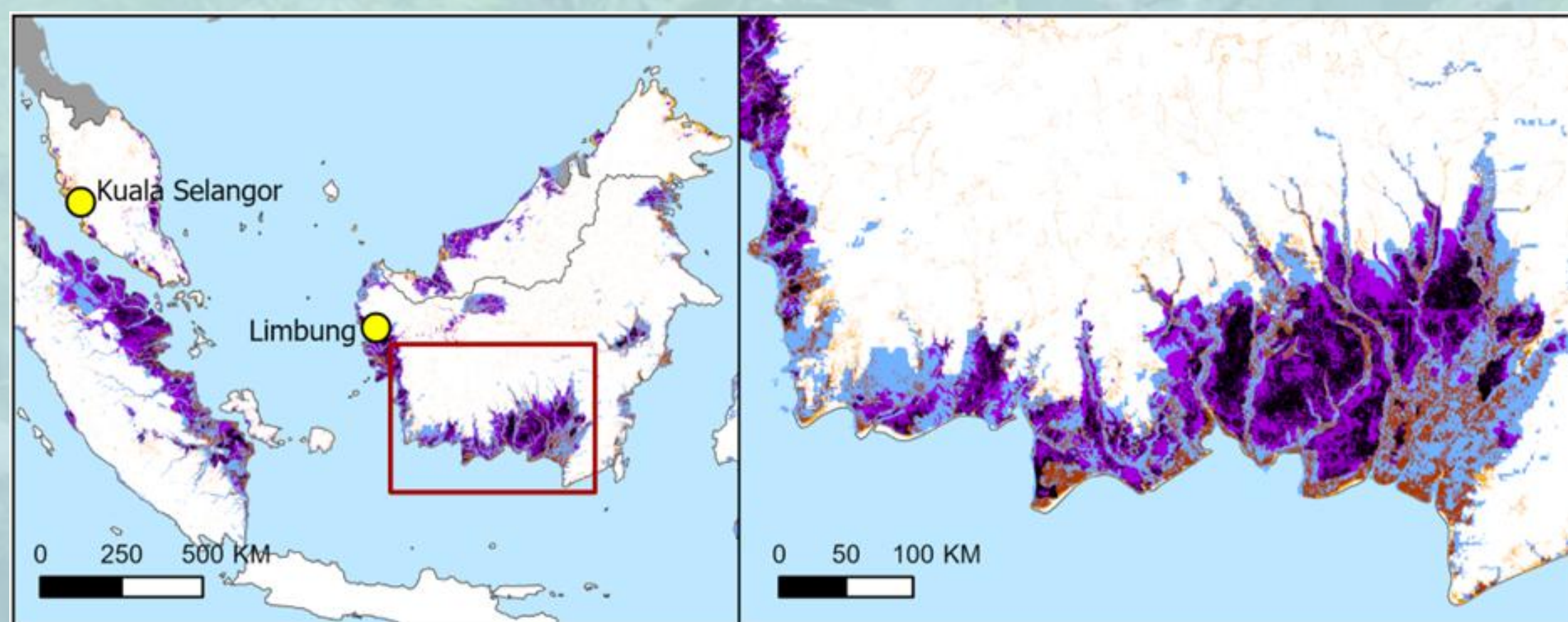


Figure 1: Map illustrating the large differences in peatland extent among three widely used spatial datasets for Indonesia and Malaysia. The areas where all three datasets agree are in black. Yellow dots indicate this project's fieldwork sites.



Data collection during fieldwork in Indonesia and Malaysia

Our Recommendations

1. Enhance data practices across scales and borders

Apply the precautionary principle by using fit-for-purpose datasets, explicitly accounting for uncertainty (e.g. error margins), and ensuring transparency in data selection and methods.

2. Constructively engage with data uncertainty

Improve the integrity of peatland carbon initiatives by addressing uncertain baselines and intervention outcomes that hinder credible assessment and risk over-crediting.

3. Value broader sustainability benefits

Recognise peatland benefits beyond carbon, such as biodiversity, livelihoods, and health, which remain under-valued in current carbon-centric frameworks.



Malaysia



Indonesia

FINDINGS & DISCUSSION: Gaps in the Use of Evidence for Policymaking

Gap 1 - Magnitude of Uncertainty in Data for Peatland Management:

Policies that ignore data uncertainty can lead to poor and (potentially) biased decisions

- Mismatches in jurisdictional and biophysical boundaries, and unclear land tenure, can lead to policies that do not reflect natural peat hydrology.
- Limited access to "official" spatial data means stakeholders must use inconsistent and non-standard datasets for scientific analyses and management decisions.

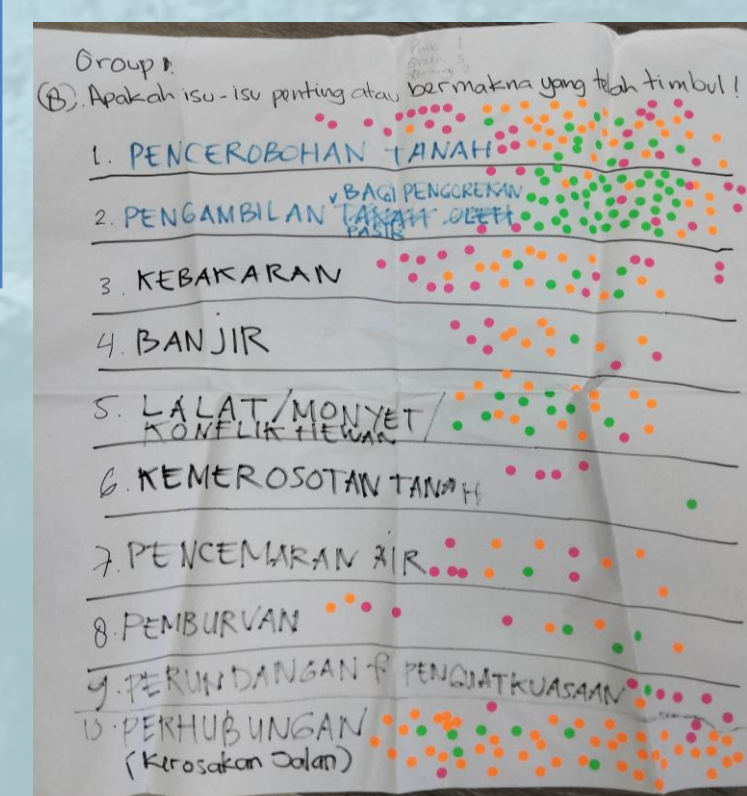
Gap 2 - Under-Valuing of Community Knowledge:

Respondents told us that climate change is too "complicated" for communities to understand

- Communities agreed, but they have a good understanding on the causes and effect of fires on peat.

Though official documents note the importance of community input, local wisdom is often sidelined.

- Such top-down policy-making hinders community buy-in and can result in unintended outcomes.

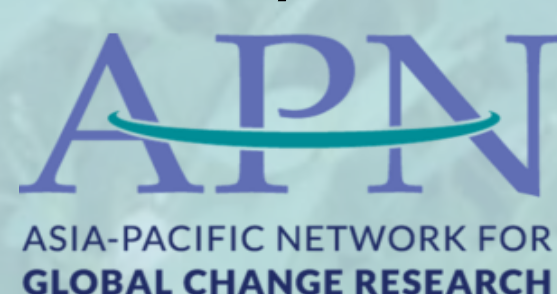


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