



From Commitment to Cultivation: Indonesia’s Peatland Vision at COP 30

In Belem—where the Amazon’s vast hydrological pulse mirrors the complexity of Indonesia’s own peat landscapes—the Indonesia Pavilion became a stage for a

different kind of climate dialogue. Here, tropical peatlands were not cast as fragile frontiers but as strategic climate assets. During the Dialogue Session on *Tropical Peatland Management and Evaluation*, Indonesia presented a unified narrative through **Dr. Mitta Ratna Juwita**, Director of GHG Inventory and MRV, **Prof. Mitsuru Osaki**, JICA Short-Term Expert and President of the Japan Peatland Society.

Together, their messages affirmed a central idea: **peatland management, rooted in science and ecological logic, is emerging as a core pillar of Indonesia’s climate leadership.**



Session Flyer

Peatlands as National Climate Infrastructure

In her opening remarks, **Dr. Mitta** underscored a striking truth: Indonesia holds the **world’s largest tropical peatland carbon reserves—approximately 55% of global tropical peat carbon.** This alone situates peatland stewardship at the heart of the nation’s climate architecture.

She reaffirmed Indonesia’s climate commitments under the **Enhanced Nationally Determined Contribution (NDC):**

- **31.89% GHG reduction (unconditional)**
- **43.20% GHG reduction (with international support)**

and the national pledge to achieve **FOLU Net Sink 2030**, where the land-use sector is projected to become a net absorber of carbon.



For Dr. Mitta, the significance of peatlands is not symbolic—it is operational. Their protection and sustainable use are indispensable for meeting these targets. She emphasized that Indonesia’s long-standing partnership with **JICA** has been instrumental in this trajectory. **Over two decades of collaboration**—spanning fire prevention, REDD+ cooperation, joint scientific research, and now **the LULUCF Project**—have laid the foundation for a science-based, innovation driven approach to peatland governance.

At COP 30, her core message was clear: **Indonesia’s peatland can serve as a global climate solution when restoration, productivity, and community livelihoods align under evidence-based policy and ecological understanding.**



Dr. Juwita delivers her keynote presentation.

AeroHydro Culture: A Practical Pathway to Low-Carbon Cultivation

If Dr. Mitta articulated the strategic context, **Prof. Osaki** provided the scientific backbone. In his presentation, Prof. Osaki revisited the foundation of **AeroHydro Culture (AHC)**—but with a sharper focus befitting the COP30 audience. Rather than exploring the full scientific depth previously shared in this newsletter series, he distilled AHC to its essence: **AHC allows crops to thrive on rewetted peat without drainage.** It does so by stimulating the growth of **aerial-like lateral roots** within organic media placed above the peat surface—media composed of compost, biochar, and beneficial microorganisms. This configuration mirrors the natural strategies of peat swamp vegetation, enabling plants to access oxygen and nutrients even under high groundwater conditions.



Osaki emphasized three core outcomes:

- **Improved plant vigor**, visible through new frond formation and stronger crown development.
- **Strengthened microbial partnerships**, including enhanced populations of AMF and PGPR.
- **Sustained productivity**, demonstrated by the **36% yield increase** observed—an effect maintained **four years** after initial treatment.



Prof. Osaki explains the innovative AeroHydro Culture.

Rather than repeating technical details known to many in the audience, he framed AHC as a **replicable, field-tested cultivation paradigm** aligned with Indonesia’s **Long-Term Strategy for Low Carbon and Climate Resilience (LTS-LCCR)**. AHC, he stressed, bridges ecological logic with agricultural necessity—transforming peatlands from constrained landscapes into resilient, climate-positive production systems.

Institutional Momentum and Partnership

Beyond the presentations, COP30 marked a turning point in institutional collaboration. Through months of preparation and the shared platform at Belem, cooperation between the Directorate of GHG Inventory and MRV (project counterpart) and the Directorate of Peatland Ecosystem Protection and Management strengthened.

Both directorates acknowledged that: **the hydrological and restoration interventions**, and **MRV’s methodological rigor** are complementary components of a unified national peatland strategy.



This renewed alignment offers a foundation for 2026 activities, including:

- Enhancing technical cooperation on peatland science and outreach;
- Providing coordinated inputs to the NDC process;
- Supporting Indonesia’s long-term climate reporting obligations.

COP30, thus, became not only an international showcase but also a catalyst for deeper domestic coordination.

A New Logic for Peatlands

As the Dialogue Session concluded, a shared understanding emerged: **resilience is achieved by working with, not against, ecological systems.** Through Dr. Mitta’s policy leadership and Prof. Osaki’s cultivation paradigm, Indonesia presented a future in which peatlands are not drained, degraded, or sidelined, but rewetted, regenerated, and revalued.

The LULUCF Project—rooted in more than 20 years of Indonesia-Japan cooperation—is helping build that future.

“

A future where peatlands serve as climate infrastructure.

A future where innovation and ecology reinforce each other.

A future where tropical peatlands stand as global climate solutions.

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Link for the session:

<https://indonesiaunfccc.com/cop30/b4/>



Group photo by the speakers.