FIELD SYNTHESIS · INDRAGIRI WATERSHED, SUMATRA

Working Together Across the Watershed

How MULTI-STAKEHOLDERS co-manage land for ecosystem-based resilience

A lessons from 12 field sites, 29 Sep – 5 Oct 2024

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ITD Alliance - Asia Regional Network Webinar Series

Working in Partnership on Complex Problems: Examples from India and Indonesia

28 October 2026 (Wed)

2:00PM - 3:15PM (HKT GMT+8)



Speaker
Prof. Seema Purushothaman
Independent scholar and practitioner, Adjunct Fellow at Ashoka Trust for Research in Ecology and the Environment (ATREE), and former professor, Azim Premji University, India



Speaker
Ms. Parijat Ghosh
PRADAN (Professional Assistance for Development Action), India



Speaker
Dr. Dyah Rahmawati Hizbaron
Faculty of Geography, Universitas Gadjah Mada, Indonesia



Moderator
Prof. Gabriele Bammer
President ITD Alliance and Australian National University, Australia

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RESEARCH AREAS



7 sites

Upstream · Hulu

West Sumatra highlands

Pressure: Critical land, volcanic & landslide risk, illegal logging

Instruments: Social forestry (LPHN, HKm), agroforestry, KTH, KBR



3 sites

Midstream · Tengah

Indragiri Hulu, Riau

Pressure: Oil-palm enclaves, tenure conflict, forest fires, logging

Instruments: Community forestry (HKm), customary groups, spatial guidance



2 sites

Downstream · Hilir

Indragiri Hilir, Riau

Pressure: Sea-level rise, dike failure, peat fires, drought

Instruments: Mangrove rehabilitation, fire-care groups, peatland honey

12 field stop-sites visited

≈8,700 ha under community permits upstream

30+ organisations named as actors

WHO ARE THE STAKEHOLDERS FOR CO-MANAGEMENT?

Communities & customary institutions

LPHN, KTH, KAN · BPRN · Datuk, MPA fire-care groups, Talang Mamak indigenous people, youth managers

Academia: Universitas Gadjah Mada; carbon sampling plots since 2016; oil palm plantations observation

Government agencies

KPH/KPHL, BPDAS, Dinas Kehutanan & Perkebunan, DLH, BRGM, Nagari and village governments

Landscape collaboration

WHO ARE THEY?

NGOs & development partners

KKI WARSI, Earthworm, RFCX, Yayasan Madani, UNDP, Dutch cooperation, World Bank

Private sector

PLN, PT Sumatera Riang Lestari, CSR funds; oil-palm estates as neighbours

Actor lists compiled from the 12 stop-site records

How collaboration unfolds: a five-stage process

1 Trigger

Degradation or disaster opens the door

Mt Talang eruption 2004 · Sapat dike breach 2016 · recurrent fires at Guguak Malalo

2 Secure access

Legal right to manage the land

30-year permit in Sirukam · PS permit 2017 in Simarasok · 3,096 ha HKm & Hutan Nagari in Harau

3 Facilitate

Bridging actors build skills and trust

WARSI facilitation since 2017 · forestry extension · agroforestry training (coffee, ginger)

4 Co-benefits

Ecology pays its way

Coffee, honey, ecotourism, compost, mud crab, peatland honey

5 Monitor & scale

Evidence and recognition sustain effort

Carbon plots since 2016 · Unand monitoring · Kalpataru 2019 · Wana Lestari 2009 & 2021

Learning loop: results from stage 5 (yields, prices, fewer fires) re-motivate communities and attract new partners — the pattern seen in Sirukam, Simarasok and Sapat

Upstream

Nagari-led social forestry in the West Sumatra highlands — seven sites



Nagari Sirukam: a model of multi-actor stewardship





1,700 ha
nagari forest

30%
managers are youth

30 yr
management permit

- **2016** — Carbon sampling at three plots begins
- **2017** — Agroforestry training (coffee, ginger) with partners
- **2019** — 2nd place, national Kalpataru award
- **Now** — Coffee, honey, ecotourism, compost, arboretum, tree adoption, education camps

Partners around the LPHN

Dinas Kehutanan · KPHL · WARSI · UNDP · RFCX · Nagari · CSR

Outcomes: less illegal logging, higher coffee yield and price, compost accepted. **Gap:** cannot yet separate its records from the WARSI database.

Characteristics of the partnerships

Site	Who leads	Who supports	What collaboration delivered	Main gap
Kampung Batu Dalam	KTH, LPHN	BPDAS, KPHL Solok	50 of 70 ha critical land replanted with avocado, coffee, mangosteen	No volcanic evacuation zone; seedlings scarce
Solok Radjo coffee	Farmers, PS agronomist	PLN, DLH, Dutch cooperation, Unand	Exported coffee; farm-gate price Rp2,500 → Rp13,000	Only 3–5 of 3,200 ha managed; acidic soils
KTH Rawang Talao	KTH, KAN, BPRN, Datuk	Forestry extension officers	Fewer fires, protected-area legality, Wana Lestari 2009	Needs community funds, youth cooperative
KTH Lurah Bayua	KTH (25 ha private land)	Dinas Perkebunan, Dinas Kehutanan, BPDAS	People's seed garden (KBR) since 2021	Pests, water shortage, low motivation
Nagari Simarasok	LPHN Simarasok	KPHL, WARSI, Nagari & central funds	Income up since 2019; honey, forest tourism; Wana Lestari 2021	Asks for livestock and tourism support
Nagari Harau	Nagari, KTH	WARSI (20,000 seedlings), KPHL	Nursery, stingless-bee honey, arboretum; flood check dams	Logging and gambier clearing continue

Pattern: customary authority (KAN, Datuk, Nagari) plus one bridging partner is the most common winning combination upstream.

Five conditions that make collaboration work

Secure tenure

Long permits (30 yr in Sirukam; HKm and Hutan Nagari in Harau) give communities a reason to invest.

A bridging organisation

WARSI, an active KPH or an extension officer links villages to funds, seedlings and agencies.

Customary legitimacy

Nagari, KAN and Datuk turn rules into shared norms that neighbours respect.

Visible returns

Coffee, honey, ecotourism and mud crab reward conservation within a few seasons.

Evidence & recognition

Carbon plots, university monitoring and national awards keep partners committed.

The strongest sites — Sirukam, Simarasok and Rawang Talao — show all five conditions; sites lacking two or more stall.

Where collaboration breaks down

Tenure conflict and plantation pressure

Layered permits and forest conversion in Rantau Bakung; corruption over conversion permits in Siambul.

Broken promises erode trust

Tree-guarding payments for ~800 trees in Siambul were not fully paid.

Thin capacity

Scarce seedlings, few staff, pests, water shortage and no machinery (Batu Dalam, Solok Radjo, Lurah Bayua).

Data held by partners

Sirukam cannot separate its records from the WARSI database without risking data loss.

The policy gap

4 of 7

upstream sites had not heard of FOLU Net Sink 2030; one had only just learned of it

No site reported a FOLU-specific programme, even where carbon plots and restoration already exist. Local EbA is contributing to the net-sink target without being counted or rewarded.



Terima kasih · Thank you

For discussion: which actor in your landscape could play the bridging role that WARSI, KPH or BRGM played in our strongest cases?

Glossary of acronyms

BPDAS	Watershed management agency (Balai Pengelolaan DAS)
BPRN	Nagari consultative body
BRGM	Peat and Mangrove Restoration Agency
DLH	Regional environment agency
EbA	Ecosystem-based Adaptation
Eco-DRR	Ecosystem-based Disaster Risk Reduction
FOLU	Forestry and Other Land Use (Net Sink 2030)
HKm	Community forestry (Hutan Kemasyarakatan)
KAN	Customary council of the nagari (Kerapatan Adat Nagari)
KBR	People's seed garden (Kebun Bibit Rakyat)
KPH / KPHL	Forest (protection) management unit
KTH	Forest farmer group (Kelompok Tani Hutan)
LPHN	Nagari forest management institution
MPA	Fire-care community (Masyarakat Peduli Api)
PEN	National Economic Recovery programme
PS	Social forestry (Perhutanan Sosial)
RHL	Forest and land rehabilitation
TNBT	Bukit Tigapuluh National Park