

**Indigenous knowledge in
sustainable development pathways:
*from endowment functions to societal values***

Chris P.A. Bennett

Faculty of Land & Food Systems, University of British Columbia

c.bennett@ubc.ca, +62 816 994 385

**2nd ISTAKOS Symposium 2020
Centre for Transdisciplinary Science & Sustainability
IPB University**

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- 1. Indigenous Knowledge Endowments / *Kearifan Lokal (KL)***
- 2. Persistent Challenge**
- 3. Opportunity 2020**
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- 5. Coordination Key: effectiveness & innovation**

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KL Recognition

- Indonesia's indigenous knowledge (*kearifan lokal*, *KL*) **endowments** matches the nation's incomparable endowment of natural capital, marine and terrestrial.
- KL has demonstrated application to the challenges of **climate change**, be they mitigation or adaptation, as well as **natural disasters**.
- KL can enhance the **five fundamental development assets**, namely, indigenous, human, social, natural and financial, whether as part of stewardship governance or direct land use management.
- KL may be **endogenous** or inform decisionmakers about adaptations to recommendations from modern scientific research.
- Despite policy recognition, KL remains **under-appreciated** in actual policymaking, planning, implementation and oversight for natural resource and environmental management.

KL Endowments

- ❖ soil and water conservation,
- ❖ fire management and control,
- ❖ natural and planted agroforests,
- ❖ crop pest and disease control,
- ❖ higher-yielding crop varieties,
- ❖ natural disaster mitigation,
- ❖ urban waste management

Planted Village Forest & Downstream Agriculture



FARMERS conserving soil as well as water



terracing traps soil run-off, provides source of mulch during dry periods and planting medium for tree seedlings after 1 – 2 food cropping cycles





3 years later



7 years later

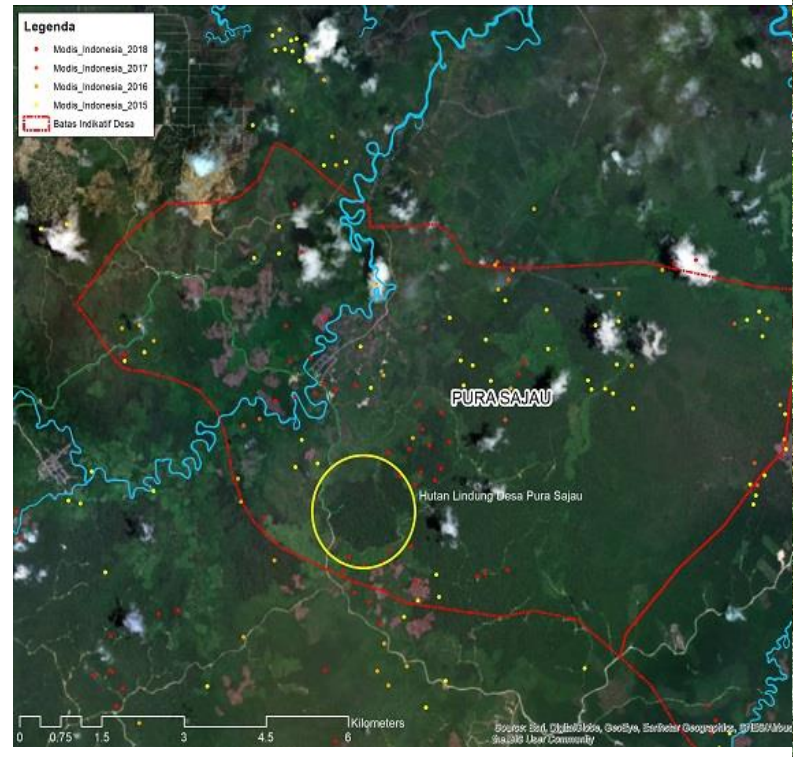
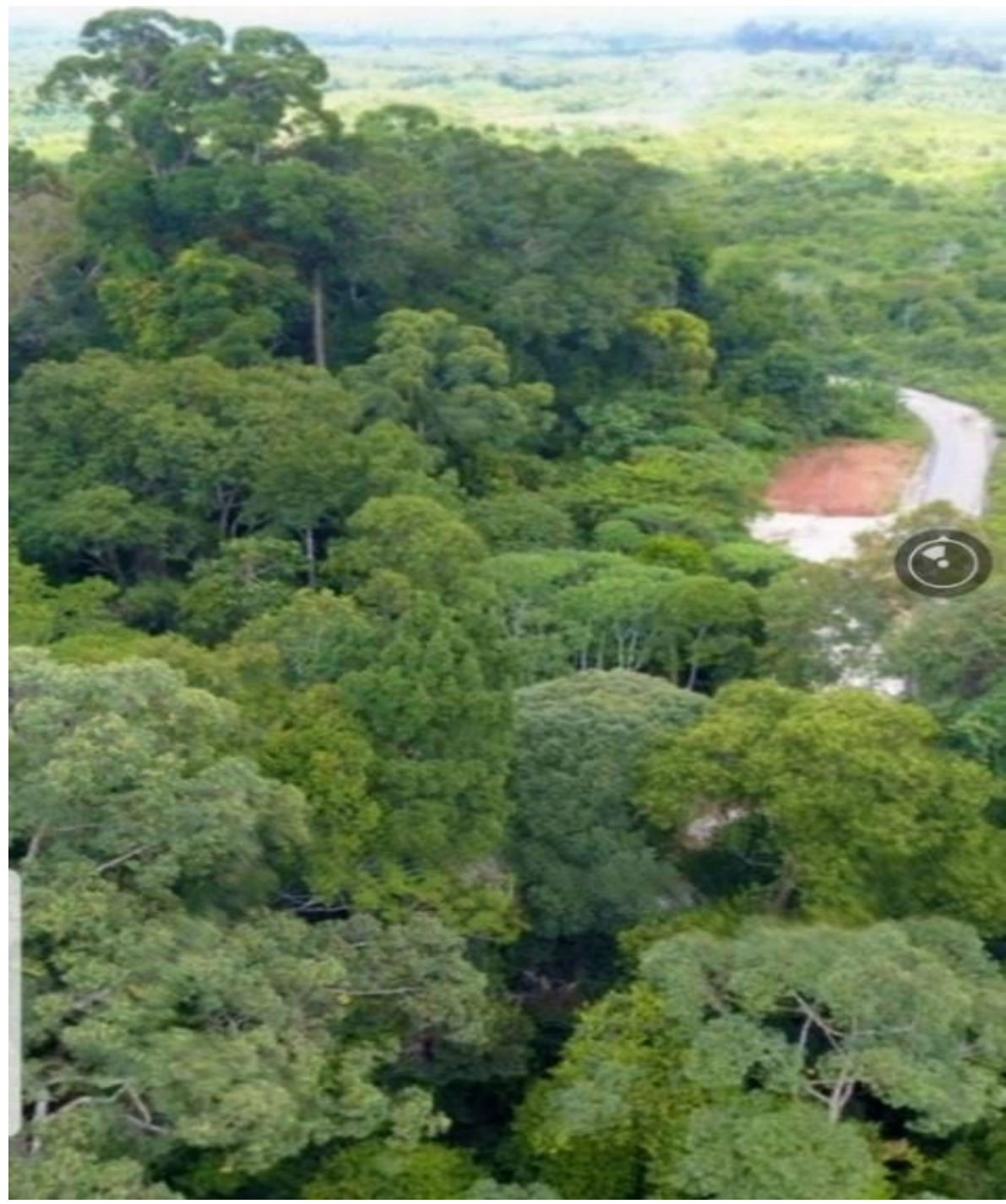
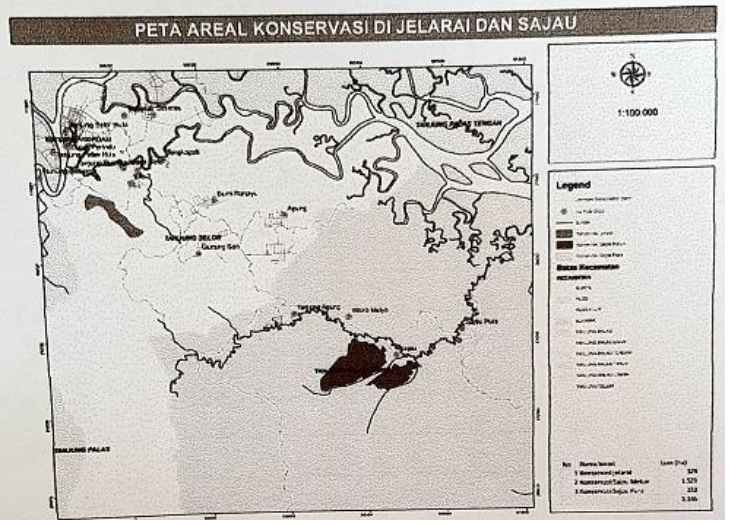
Conserving scarce water, reducing seedling mortality (melinjo), 2003
Kalibiru, Hargowilis, Jogjakarta



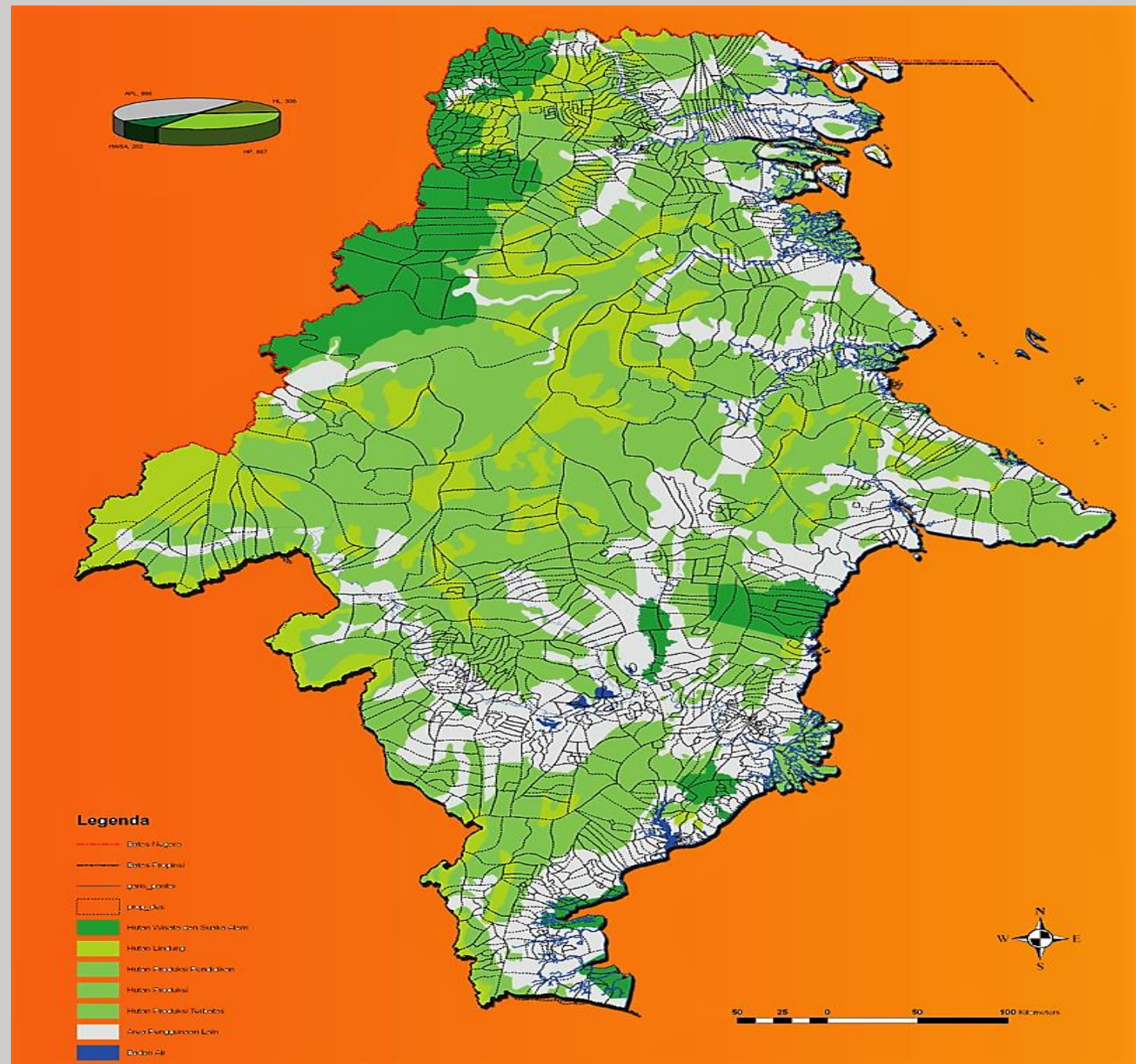
Terracing and tree planting that safeguards soil and water resources for sweet potatoes, Papua





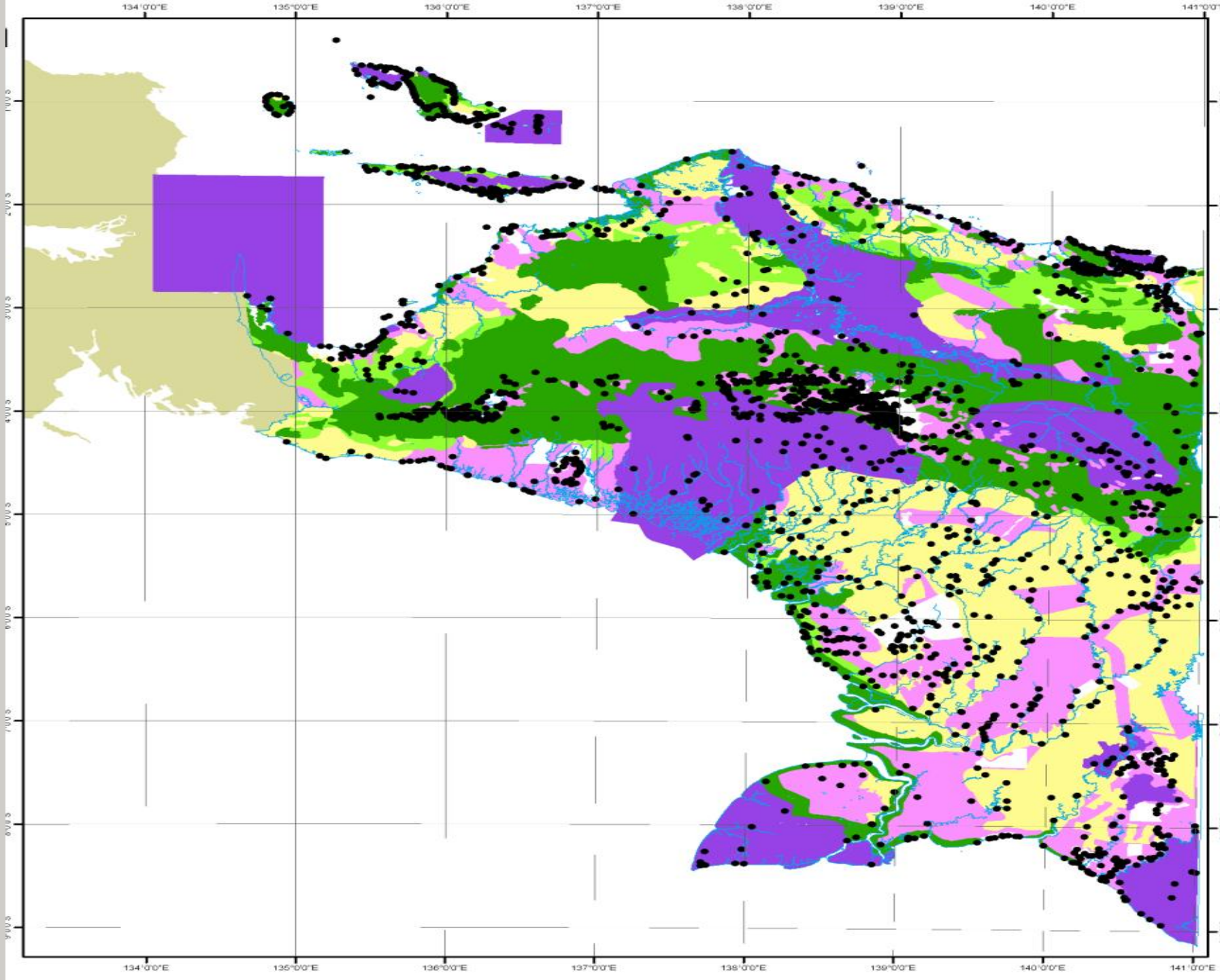


Majority of village & State Forest Areas overlap

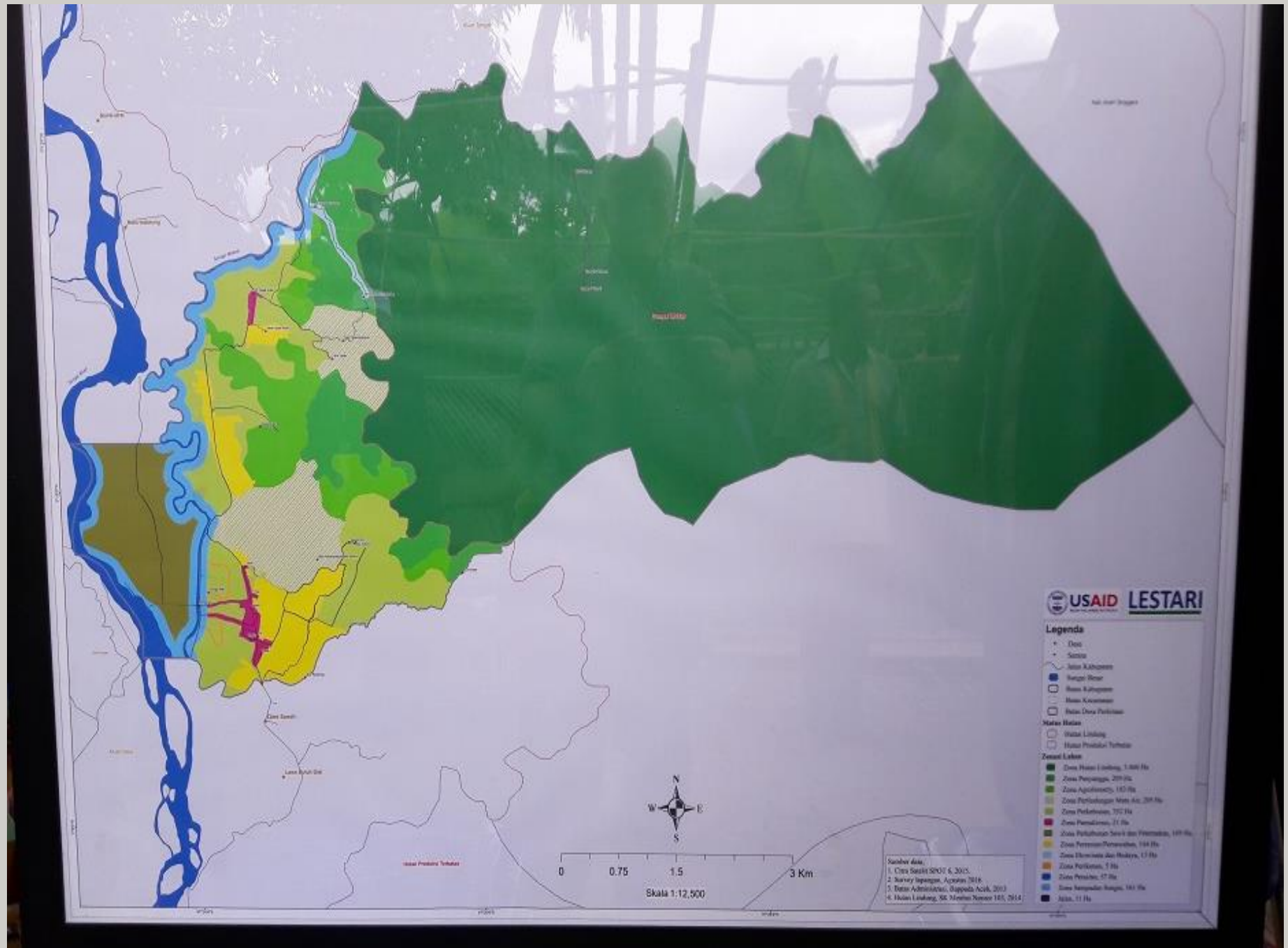


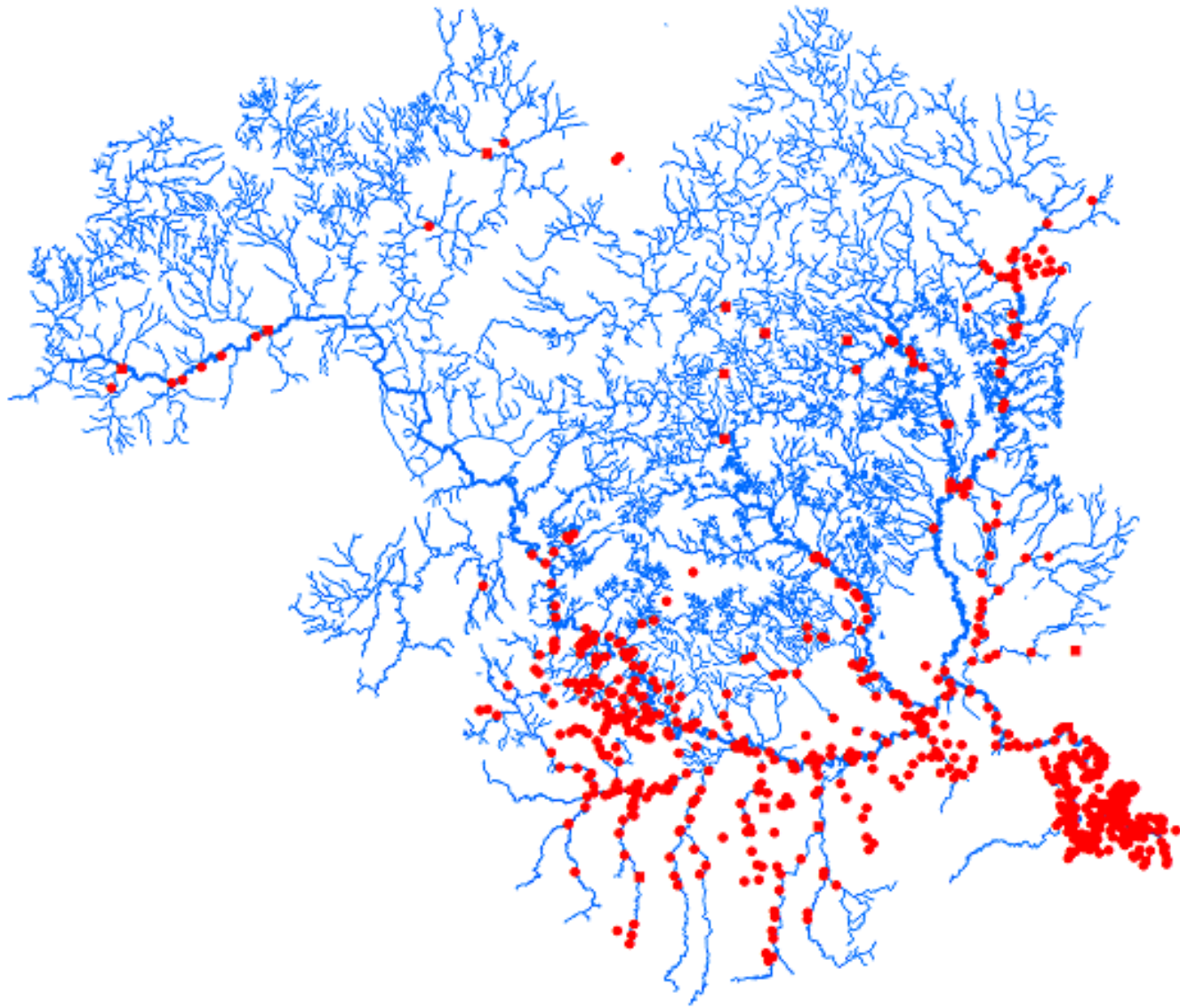
Papua

85% of villages overlap with State Forest Areas



Village
Development
Plan
(RPJMDes),
Lawe Cimanuk,
Aceh, 2017
Overlapping
private and State
Forest Areas
including
National Park
Source: USAID-
LESTARI 2016





Mayoritas dari penduduk tinggal di Daerah Aliran Sungai dan tergantung pada sungai langsung atau tak langsung ~ “*Benang Biru*”

Sejauhmana ada keterpaduannya diantara KL “*Benang Biru*” dan “*Benang Merah*”?



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Challenge of incorporating KL into research and development

- Experience-based **transdisciplinary natural “scientists,”** and,
- **Necessarily-specialist** modern science-based researchers

KL Policy Recognition without Roadmaps

- Policies acknowledge the value of KL and participation of local people in land use planning, licensing, implementation and oversight, e.g.,
 - PP45/2017, RPJMN 2020-24, Omnibus Law 2020 (UU Cipta Kerja)
- Pragmatic roadmaps for integration into modern research and development processes are often, however, inadequate.
- KL utility needs a reset, beyond recognition to practice.

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Covid recovery challenges

- Reduced operational development budgets
- Food security concerns
- Employment and livelihoods

PP23/2020

Government Regulation for National Economic Recovery

Article 3 on Principles,

(a) Social Justice

(b) People's Prosperity

(c) Support for companies.

Implicitly warning about unintended effects

d) Need for accelerating policies that are fair, transparent and accountable.

(e) "*Moral hazard*" to be avoided.

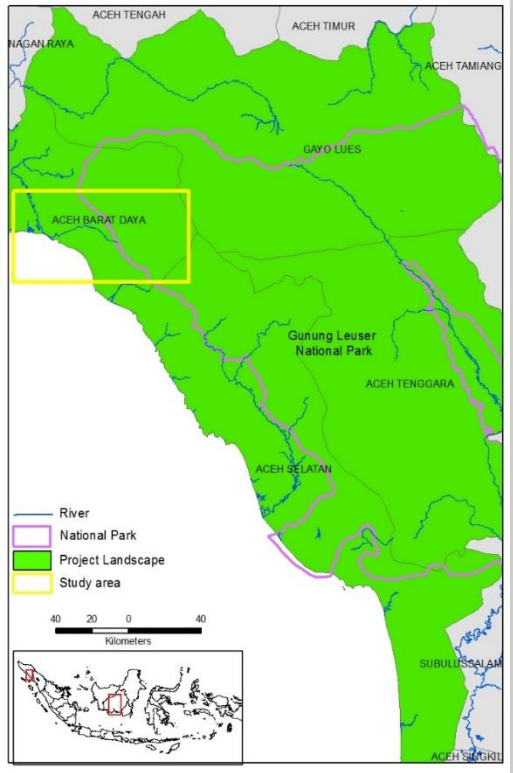
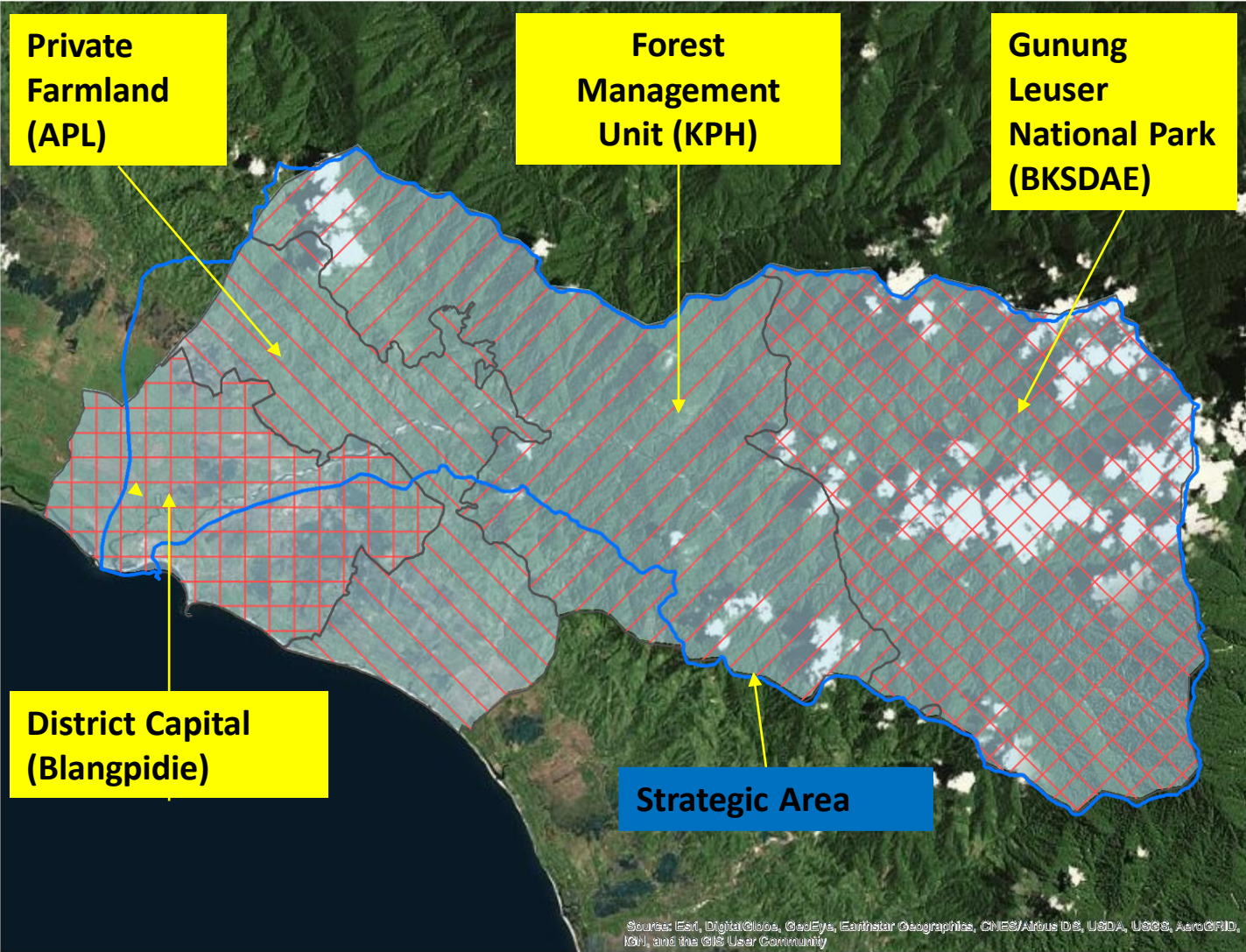
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Covid recovery opportunities for KL incorporation

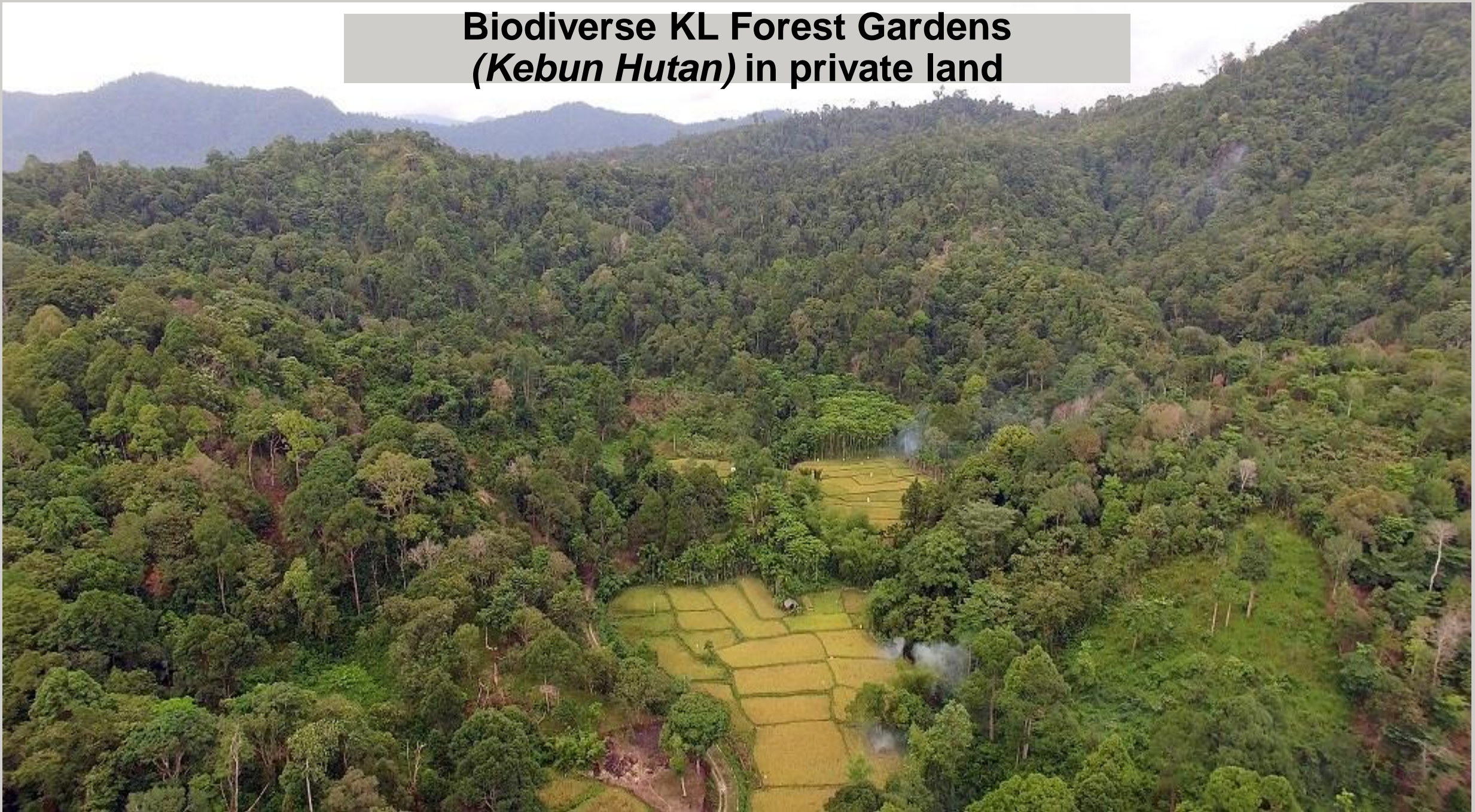
- So that PP23/2020's warning to avoid moral hazard be heeded, it would be timely to **re-emphasize the role of the five fundamental development assets**, incorporating KL.
- More inclusive and holistic planning incorporating KL, especially **detailed spatial planning (RDTR) at scales that are familiar to key stakeholders** and therefore more likely to be respected, or at least across clusters of villagers as anticipated in UU26/2007.
- At the very least, KL should feature within all Strategic Environmental Assessments (SEA, KLHS) that guide RPJMD and RTRW as well as largescale projects.

Detailed spatial planning (RDTR) and participatory zonation for state forest areas



2016 designation by Bupati Decree of the river Susoh watershed as a strategic area for the downstream capital of Aceh Barat Daya District, Aceh Province

**Biodiverse KL Forest Gardens
(*Kebun Hutan*) in private land**



**KL Garden Forests
(*Hutan Kebun*) in adjacent state forest area**

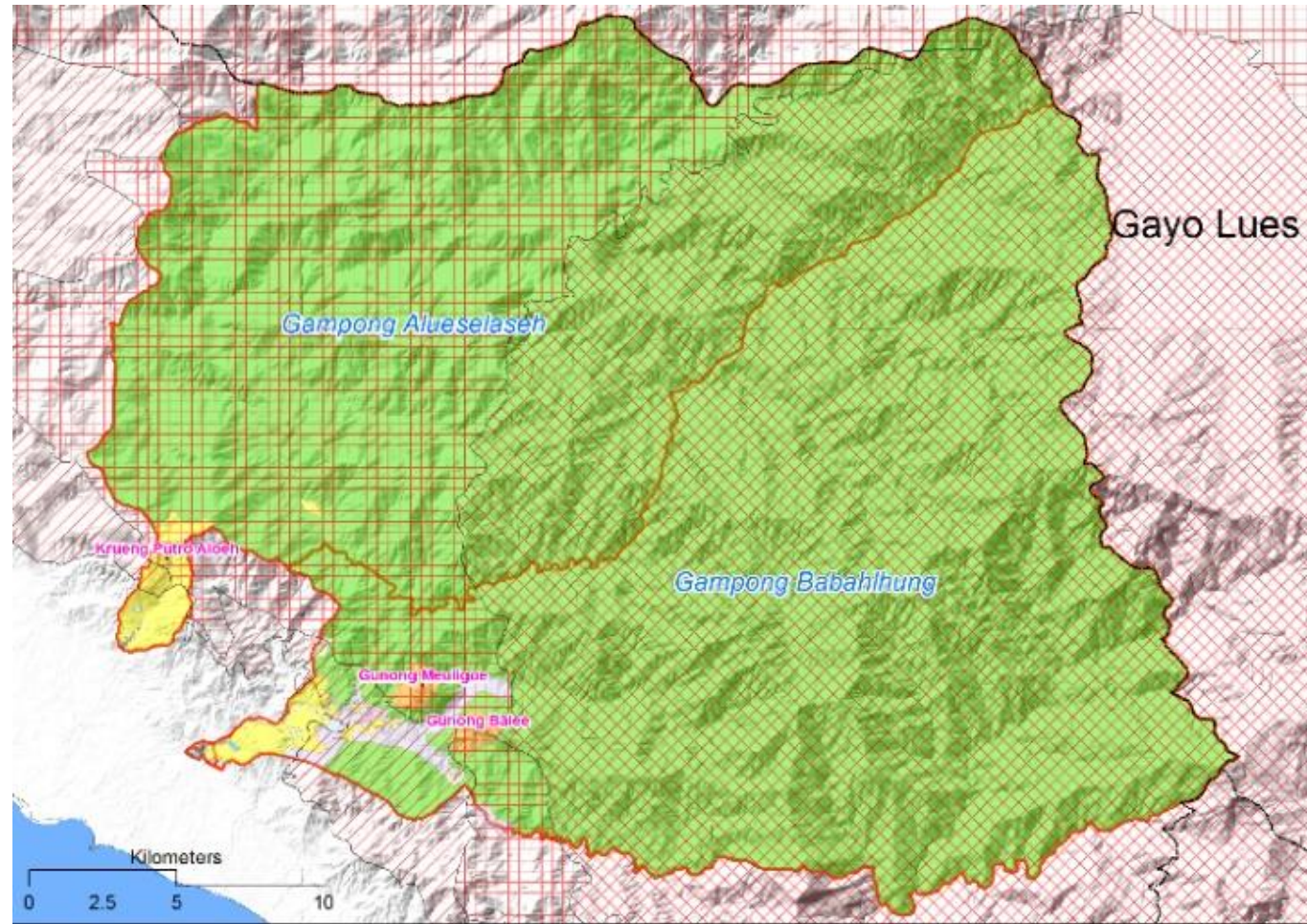
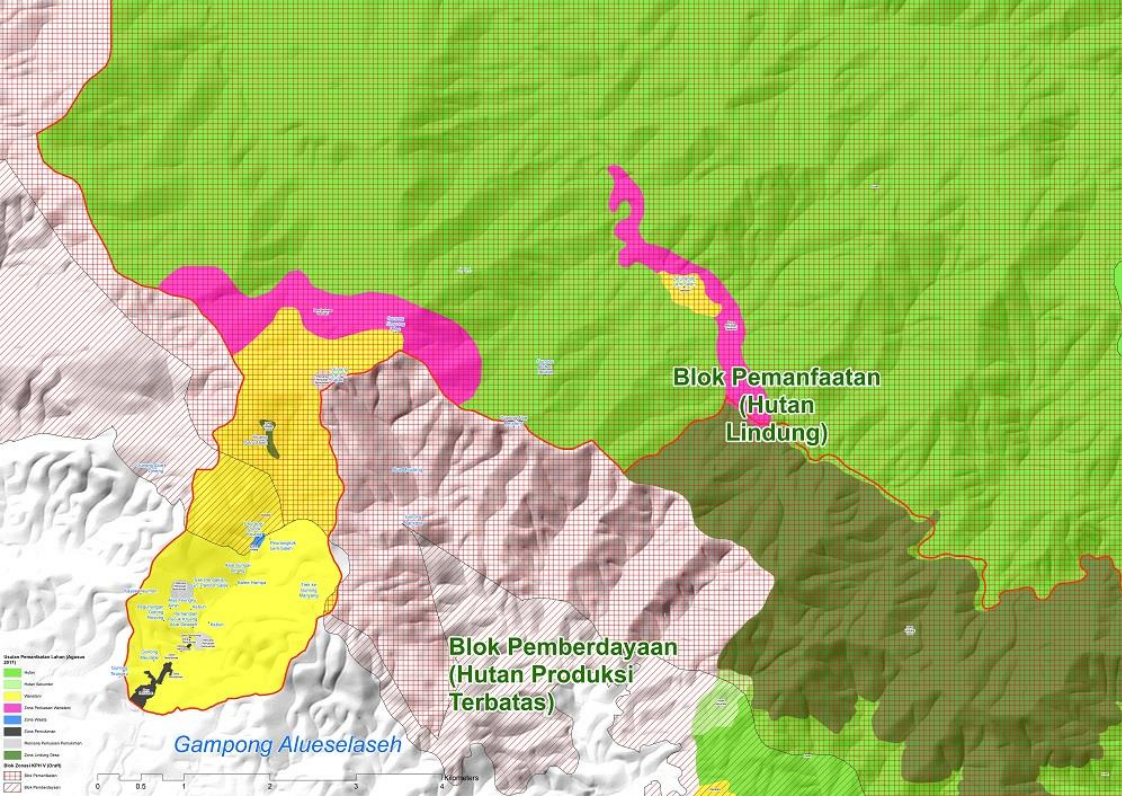


Participatory zonation for social legitimacy to reinforce legal legitimacy



- Innovative participatory zonation anticipates *Pedoman Kawasan Perdesaan*.
- Inter-stakeholder consultations between village community, FMU / KPH, TNGL, and local government
- Multi-stakeholder identification of strategic land use issues: floods, landslide, windstorms, population pressure, land insecurity.
- Integration of community perceptions of land functions with formal land use status (production, protection, conservation areas).





02/11/2020

ALEUSELASIH VILLAGE *Community-proposed land use zones*



SEA for RTRWK



Pertama, visi +/- dicatat

Kedua, digambarkan

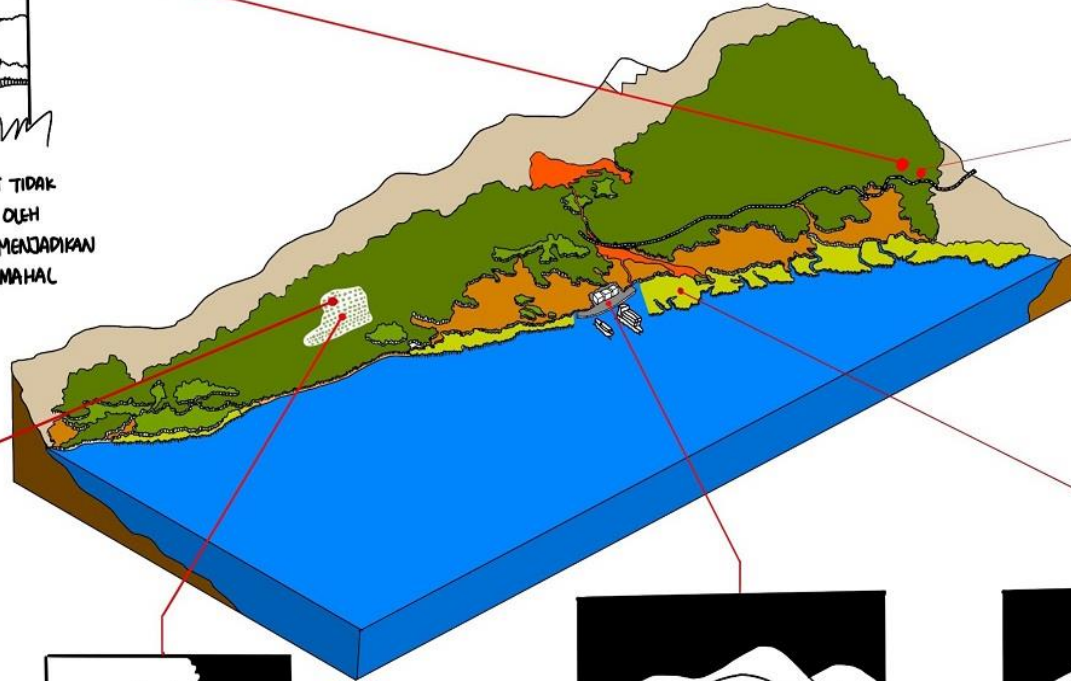


Konsep perbandingan arah pembangunan **buruk / BAU (-)** dengan yang **optimal / terbaik (+)**

KAJIAN LINGKUNGAN HIDUP STRATEGIS LANDSCAPE TIMIKA



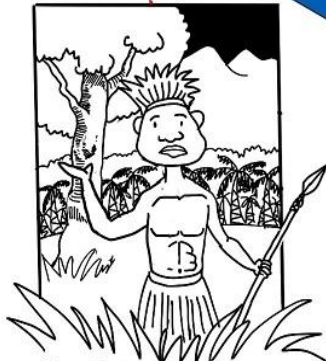
AKSES DARAT YANG SANGAT TIDAK MEMUNGKINKAN DITEMBUS OLEH KENDARAAN RODA EMPAT, MENJADIKAN KEBUTUHAN POKOK JADI MAHAL



DIBUKANYA HUTAN ADAT JADI PRODUKSI MENJADIKAN TERBUKANYA AKSES PADA PEMBANGUNAN EKONOMI

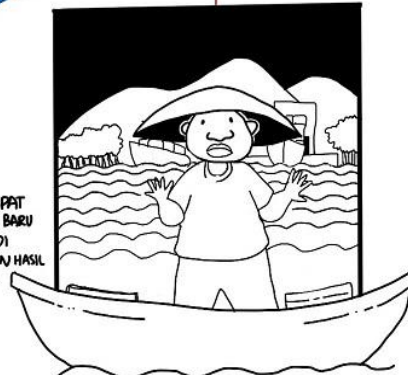


HUTAN ADAT TERJAGA, TIDAK DIAH FUNGSIKAN MENJADI INFRASTRUKTUR ATAU HUTAN PRODUKTIF, AKAN IKUT TERJAGA SITUS, BUDAYA SEPERTI KEARIFAN LOKAL



HUTAN ADAT DIAH FUNGSIKAN JADI HUTAN PRODUKSI, BERAKIBAT TERGUSURNYA SUKU ASLI, SAMPAI BINATANG BURUAN YANG MEMENUHI KEARIFAN LOKAL.

EFEK BAIKNYA MASYARAKAT DAPAT MATA PENCAHARIAN BARU DENGAN BEKERJA DI PELABUHAN, DENGAN HASIL YANG LEBIH PASTI.



DENGAN DIHILANGKANNYA MANGROVE MENJADI DAERAH KEGIATAN EKONOMI (PELABUHAN) MENJADIKAN HILANGNYA BIOTA LAUT SEBAGAI BAHAN POKOK NELAYAN



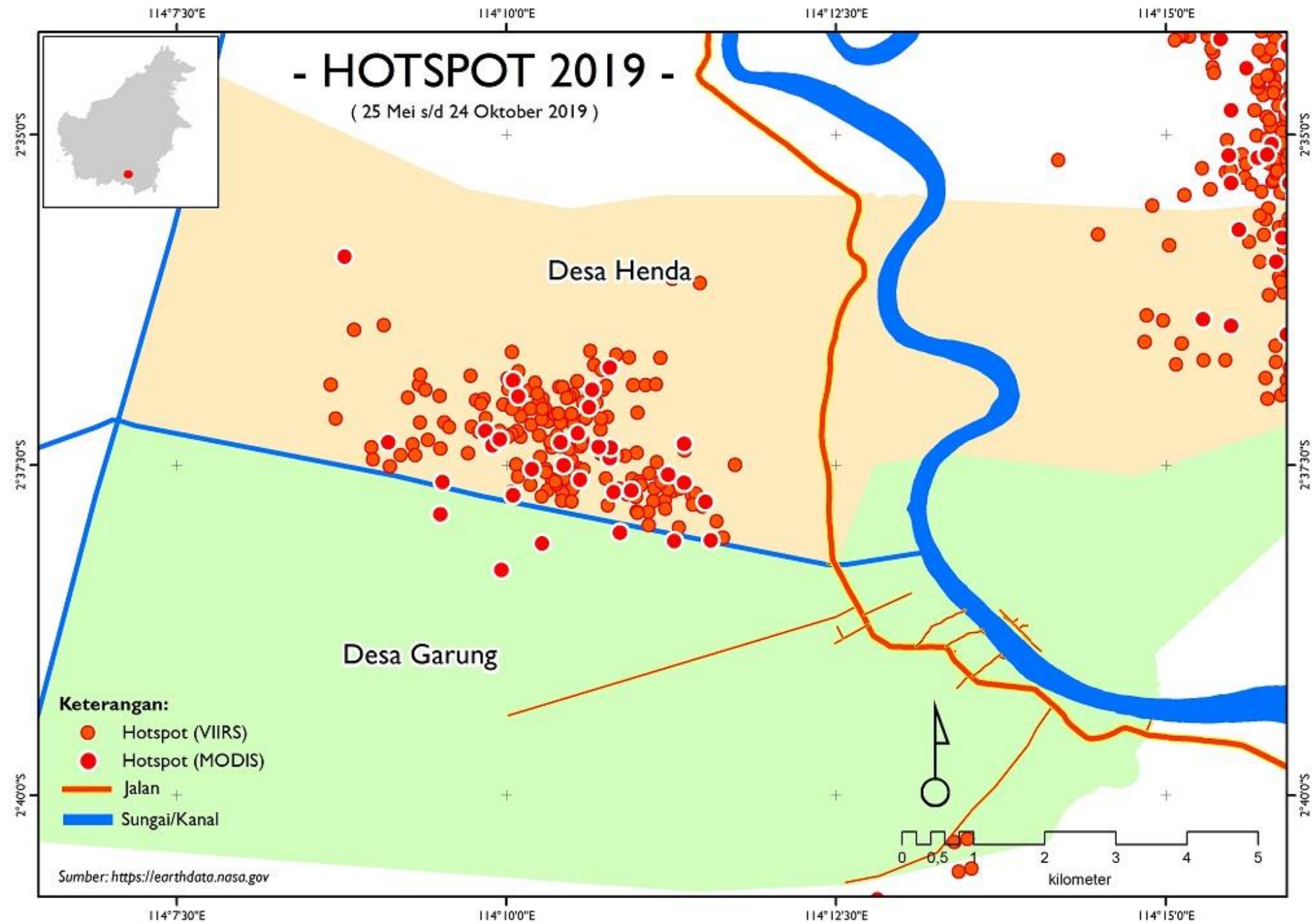
BILA MANGROVE MASH TERJAGA OTOMATIS BIOTA LAUT YANG BANYAK HIDUP DI MANGROVE SEPERTI IKAN KEPITING DAN UDANG JUGA IKUT TERJAGA...

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KL fosters integration of landscape functions with societal values

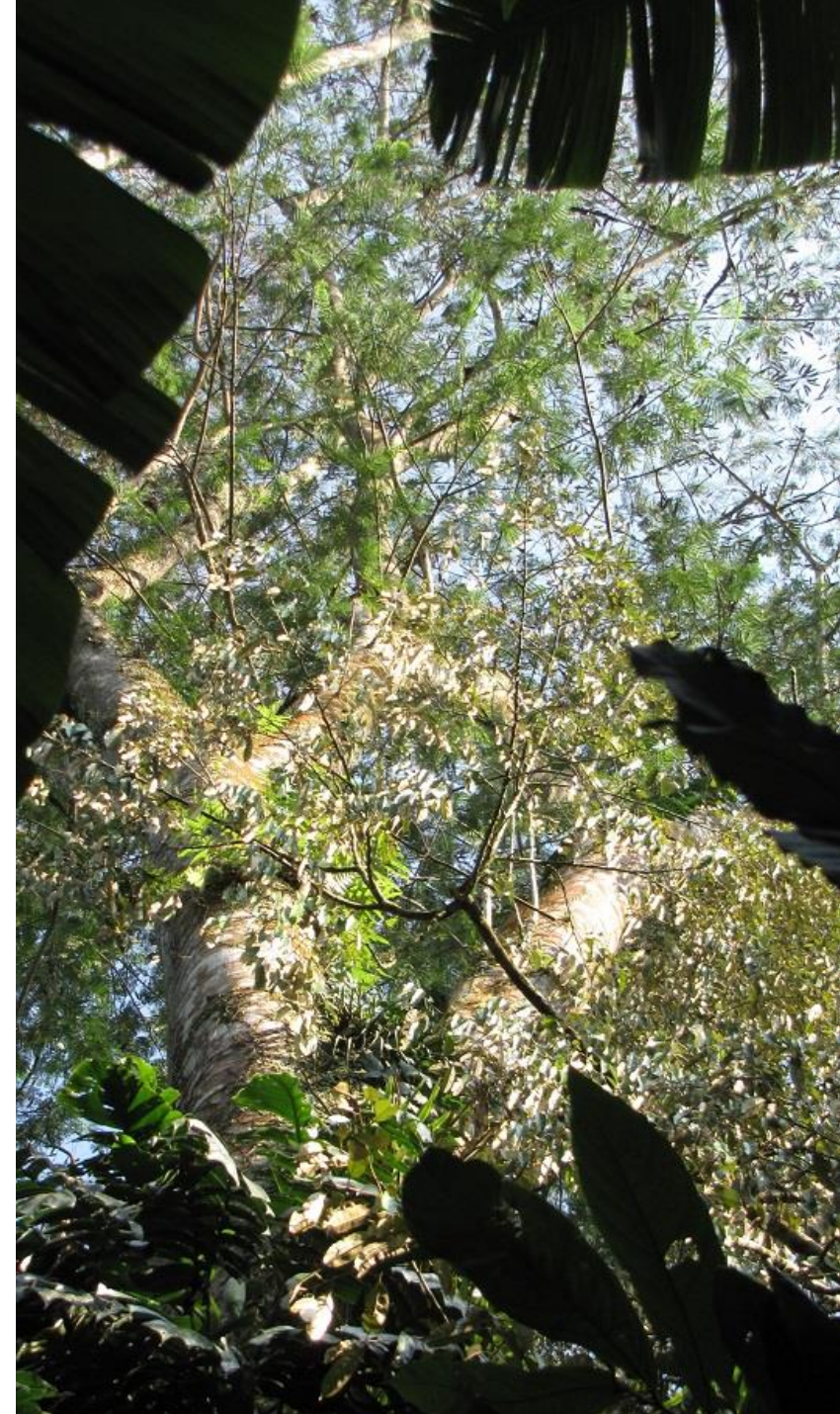
- Found throughout Indonesia, one of Indonesia's greatest assets, **social capital**, has its root in KL, e.g., *rumongso melu handarbeni* (sense of shared ownership).
- Understood more broadly, KL's social capital provides a **platform for transdisciplinary science** aimed at achieving sustainable development pathways.
- Applications of KL to strengthen social capital offer opportunities for greater **intersectoral coordination and cooperation** to overcome overly-sectoral approaches to development, commonly referred to as *egosektoralisme*, resulting in truly integrated landscape management.



SOCIAL CAPITAL & KL: 2017: Incorporation of KL in peatland canal blocking through collaboration between village and Gol hydrological infrastructure engineers.

2019: firefighting villagers

Community forest (PS) 15 years later in State Forest Area. Architecture of the agroforest still in place. PES for microhydro and water supply to Mataram city, Lombok, NTB





From
community
forestry to
ecotourism



Tacit KL, valuable experiential knowledge, can complement and enhance science-based research and development, increasing understanding about today's challenges and opportunities

Over 800 year's ago, Naser od-Din Tusi, put it more philosophically and poetically

*Anyone who knows, and knows that he knows,
Makes the steed of intelligence leap over the vault of heaven.*

*Anyone who does not know, but knows that he does not know,
Can bring his lame little donkey to the destination nonetheless.*

*Anyone who does not know, and does not know that he does
not know,
Is stuck forever in double ignorance.*

Terima Kasih