

Landscape-Seascape Approaches to Reconcile Conservation and Development

Intu Boedhihartono & Jeff Sayer

CAIRNS





SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY



2 ZERO HUNGER



3 GOOD HEALTH



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



8 DECENT WORK AND ECONOMIC GROWTH



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



10 REDUCED INEQUALITIES



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



16 PEACE AND JUSTICE



17 PARTNERSHIPS FOR THE GOALS



SUSTAINABLE DEVELOPMENT GOALS

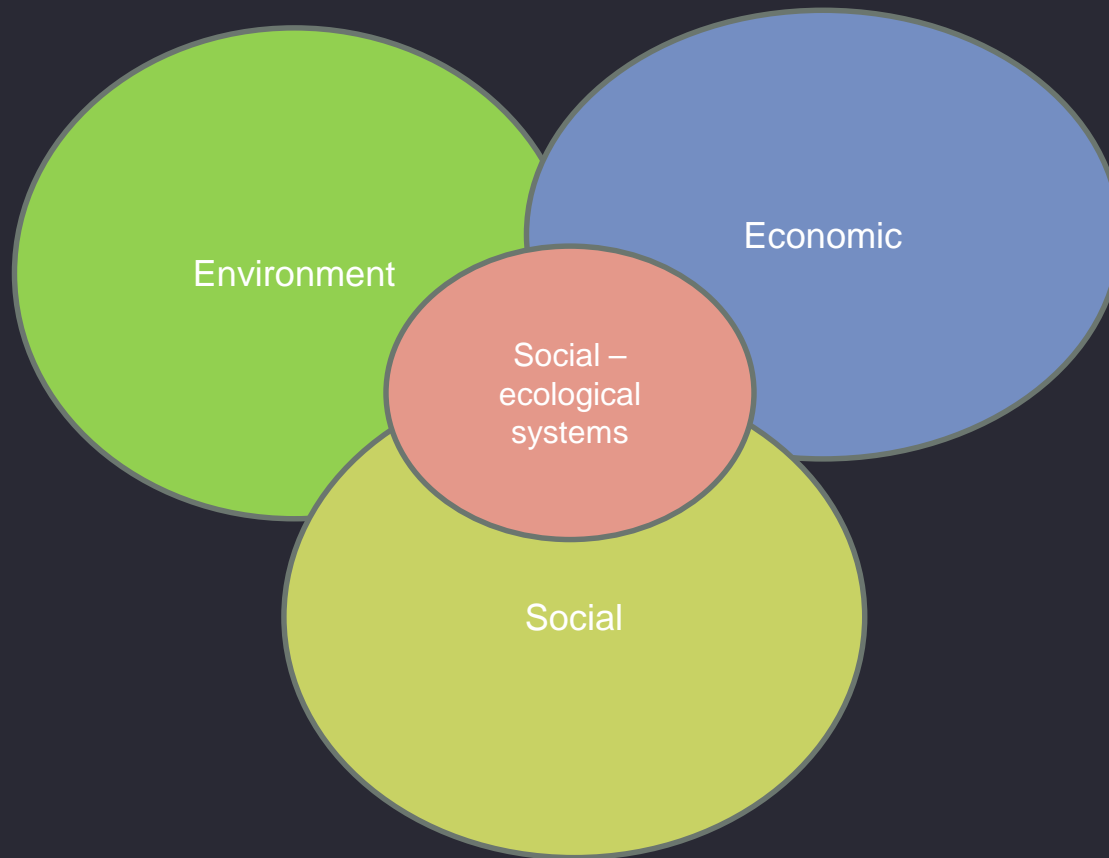


INDONESIA

Landscape Approach

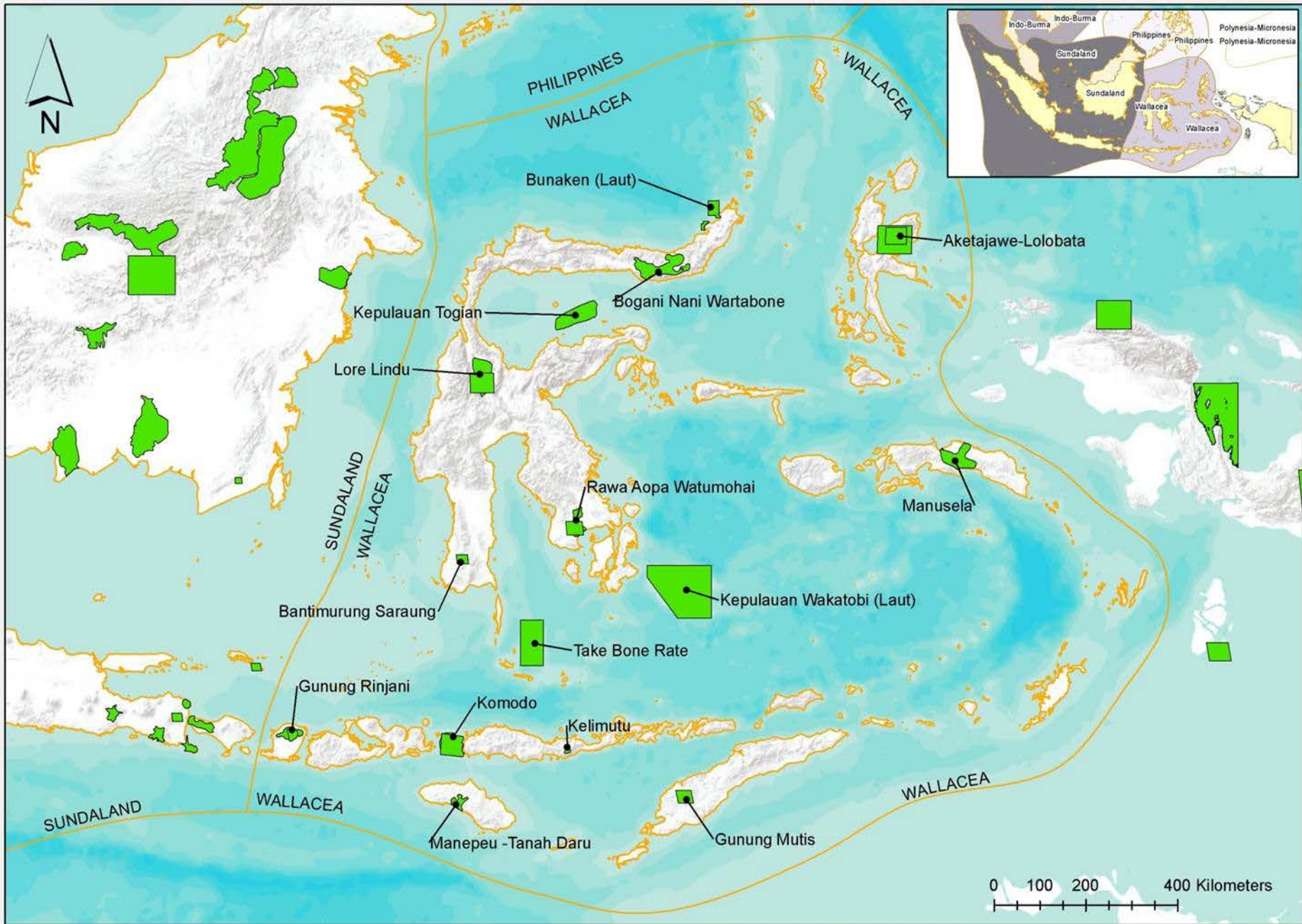
- A long-term collaborative process bringing together diverse stakeholders aiming to achieve a balance between multiple and sometimes conflicting objectives in a landscape or seascape

**We should all be at the interface of the three pillars of sustainability
– dealing with Social- ecological systems = landscapes/seascapes**



Sustainability Science

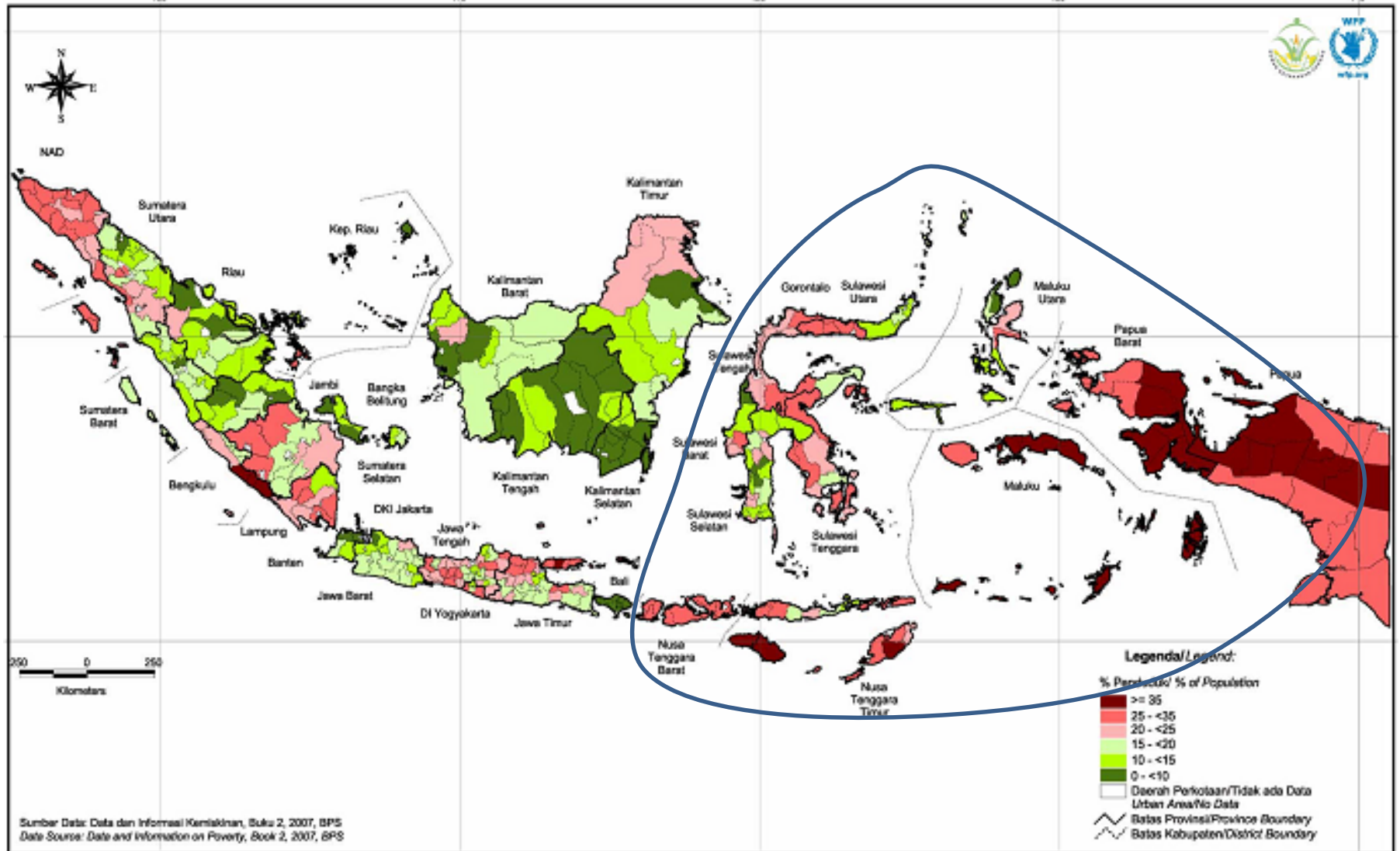
1. Solving peoples' practical problems – helping them innovate
2. Using different types of science – biology, economics, anthropology, hydrology, soil science, etc.,
3. Building understanding of people and their environment



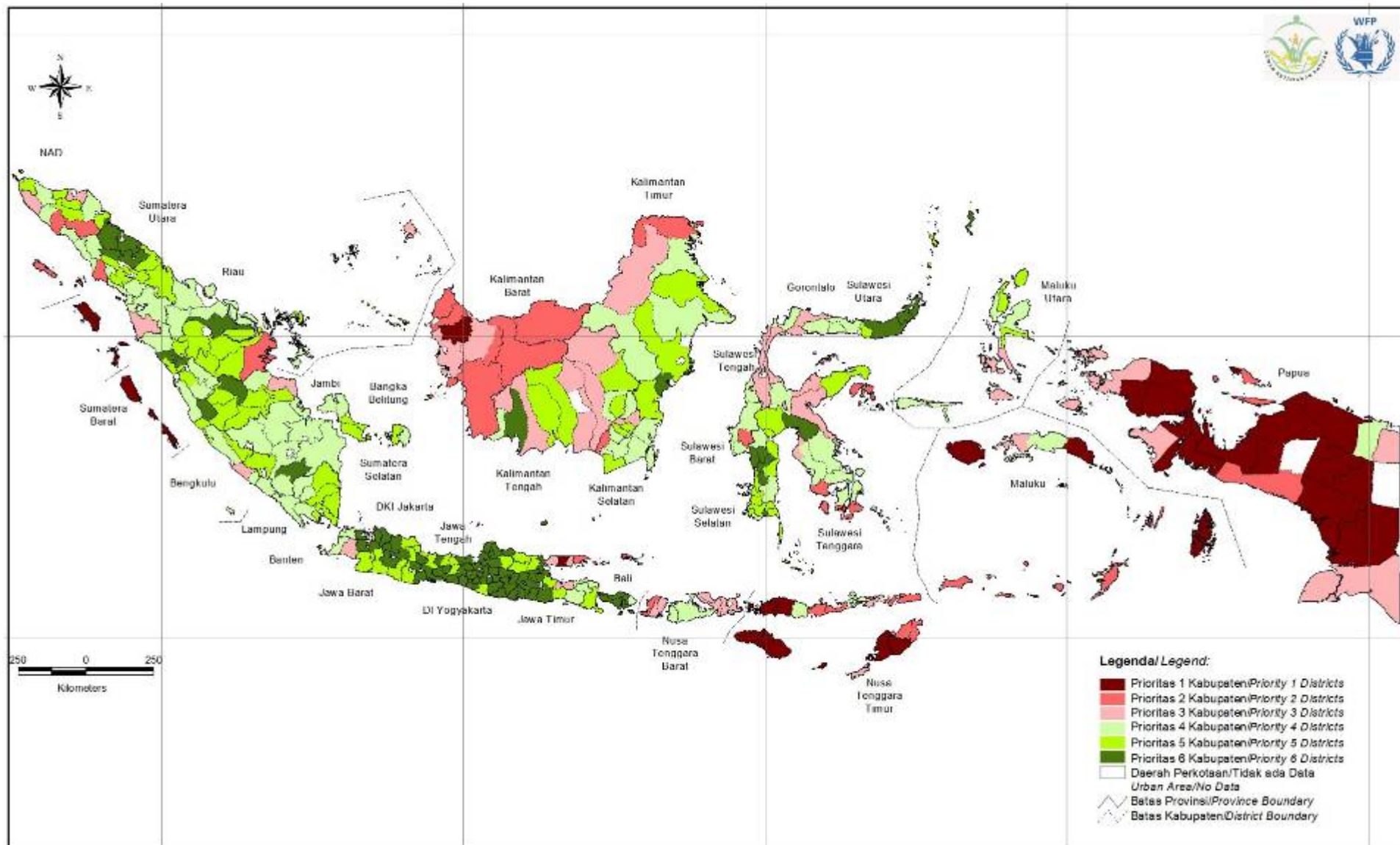
 National parks —  Biodiversity hotspots

Source: World Database on Protected Areas (WDPA), 2012

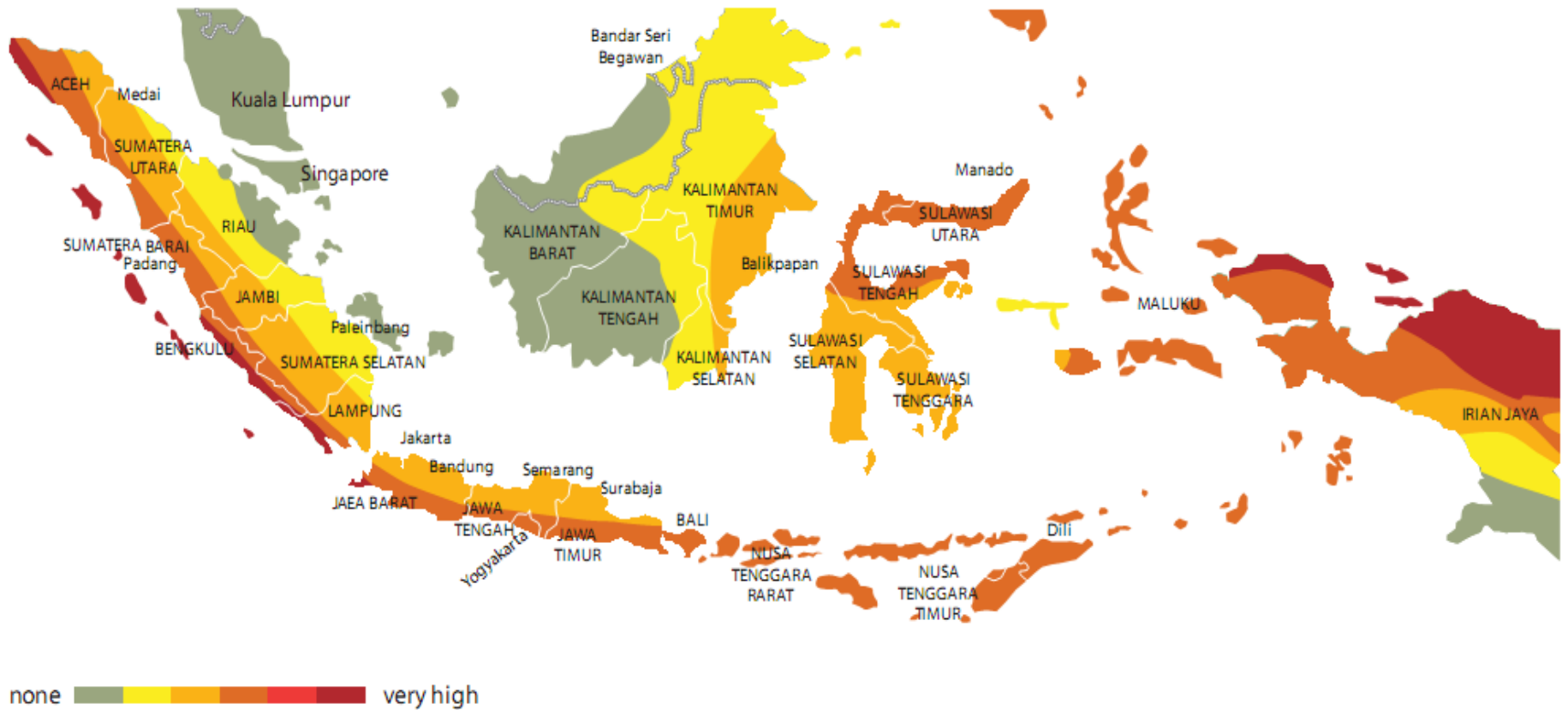
POPULATION LIVING BELOW the POVERTY LINE (DKP-Indonesia 2009)



World Food Programme Food Security Atlas



DEGREE OF EXPOSURE TO NATURAL HAZARDS



(Source: Indonesian Ministry of Environment)

Pulau Seram

1. High biodiversity – unique – well preserved
2. High levels of poverty
3. Very rapidly growing population – 3% +
4. Mountainous – limited useable land
5. Marine resources over-exploited

Challenges

The challenge of a sustainable future for SERAM:

- **Ecological resilience** – adapting to human impacts, conservation of the environment, biodiversity protection.
- **Human wellbeing** – good health, social equity, economic opportunity.
- **Resource security** – access to water and land, sustainable energy resources, food security.
- **Good governance** – political representation, freedom of speech, absence of corruption, effective governments, transparency of process.

Can we contribute to this?



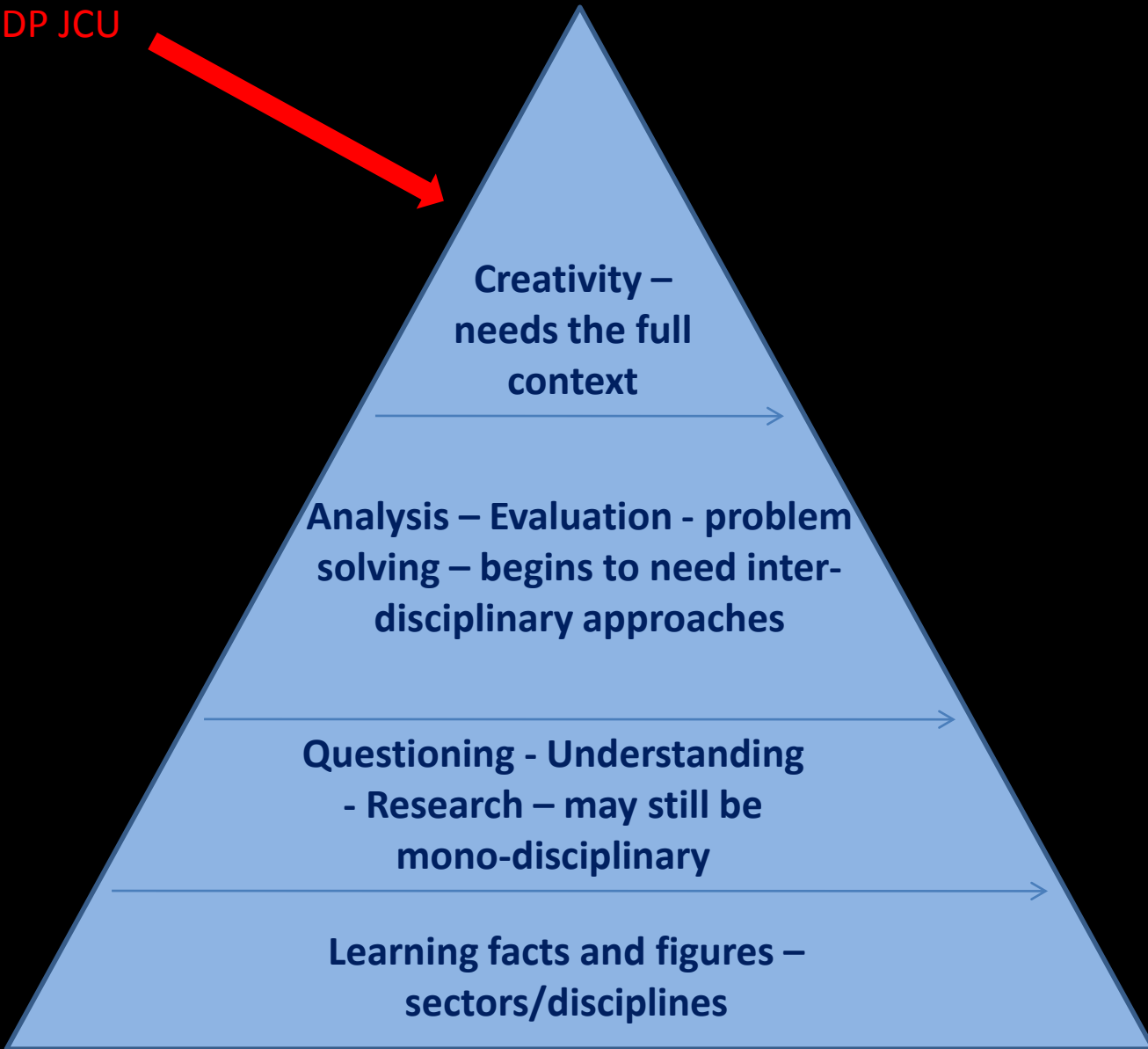
Integrated learning for development

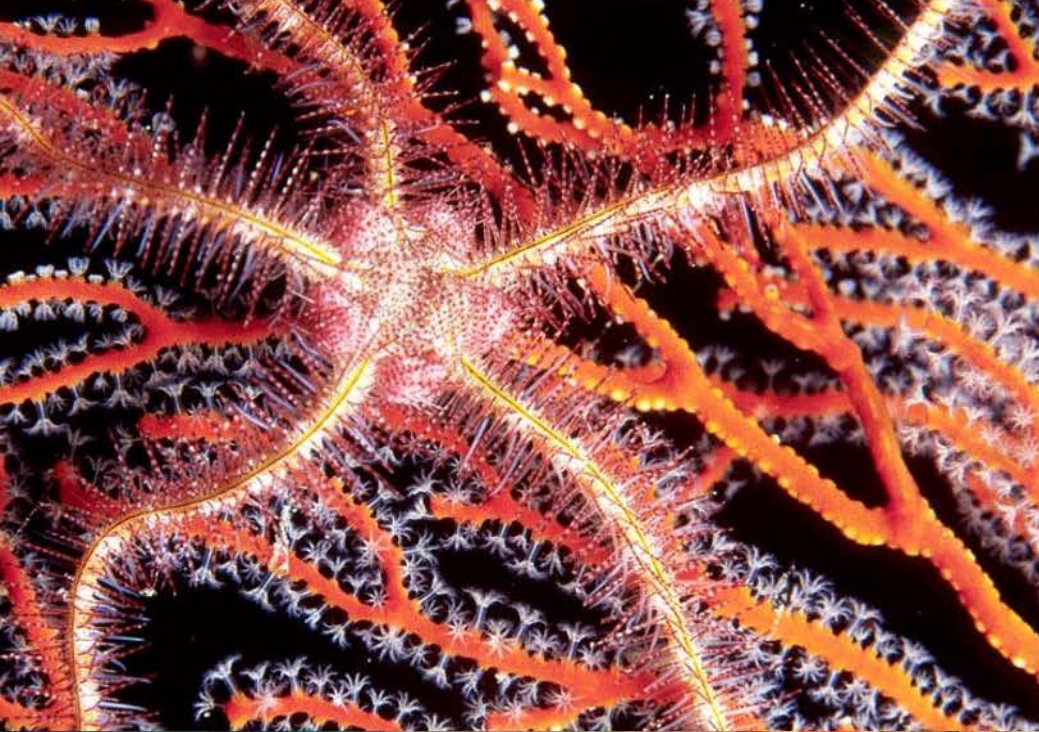
- Real-time, large scale, learning by doing
- Co-production of knowledge
- How do communities innovate?
- Knowledge and Information - connections
- Community to set priorities

Needs

- Sentinel – land-seascapes – Pulau Seram
- Long-term partnership
- Data – knowledge -
- Human Resource Development
- Institutions – social organisation
- Civil society - NGOs
- Theories of change – how we will cause change

MDP JCU

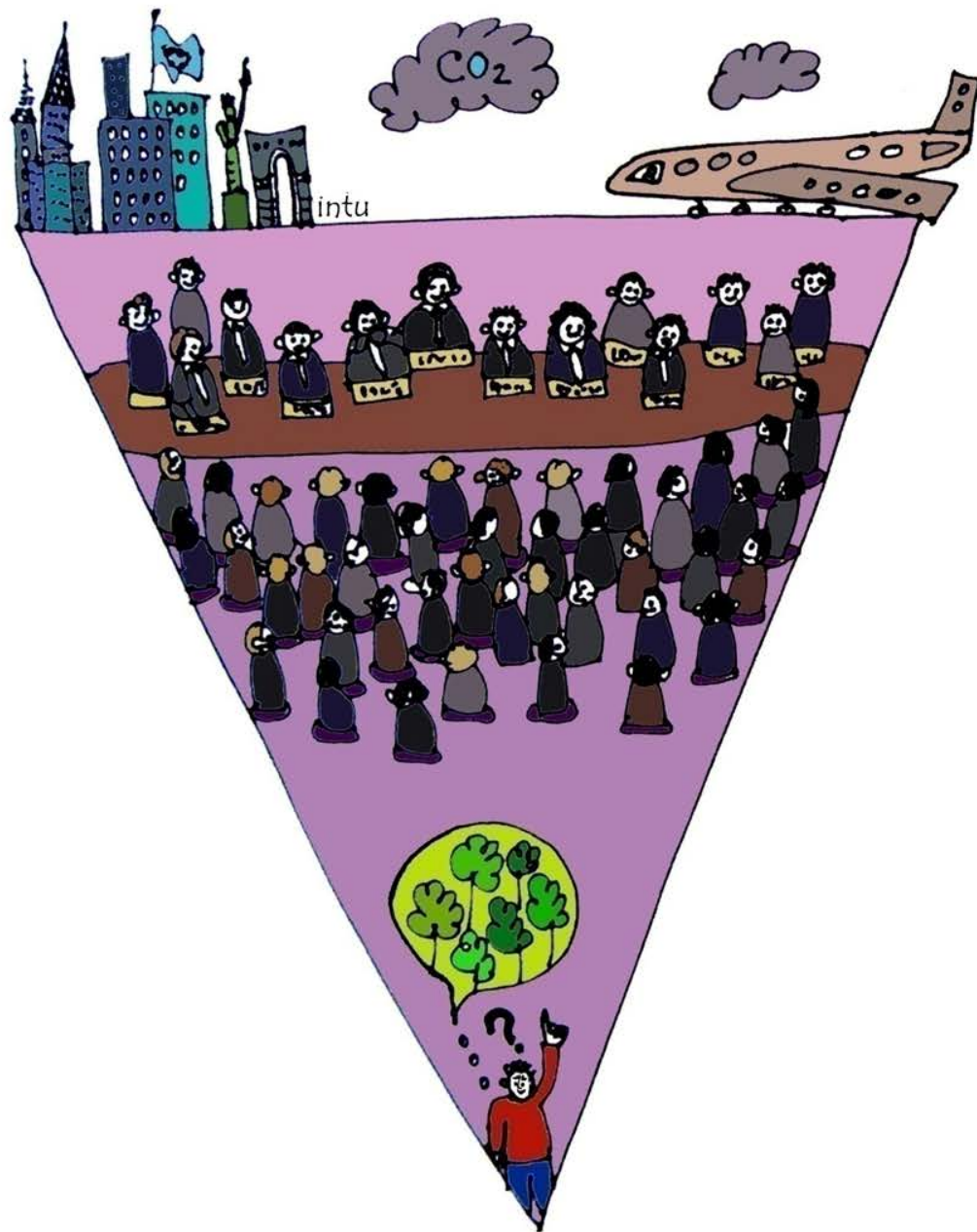




Erdi/CI photo

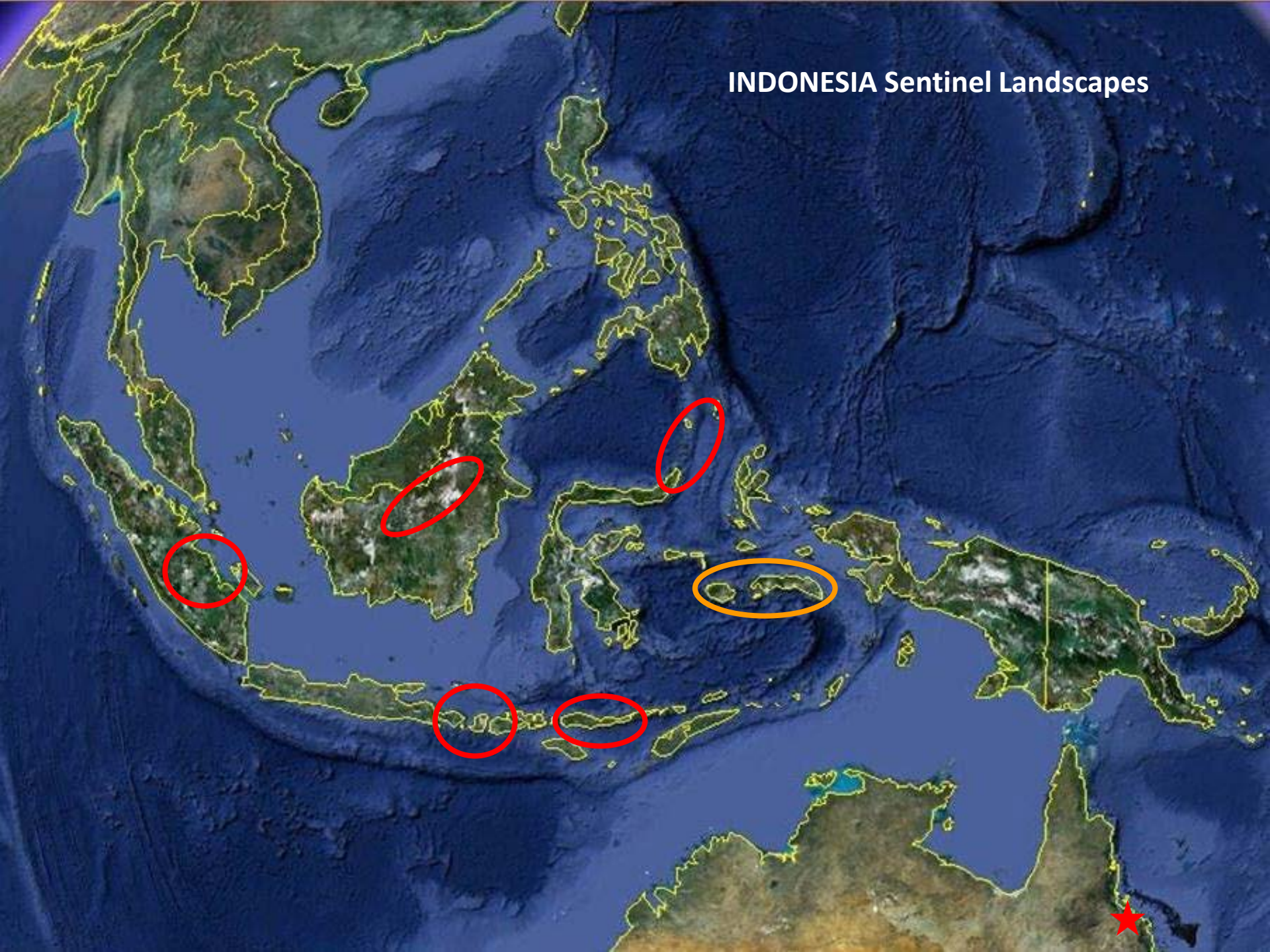






Whose vision ?

INDONESIA Sentinel Landscapes



Landscape tools we use

Appreciative enquiry



Listening, Learning, Sharing, Observing

Facilitation

- SWOT Analysis
- Focus group discussion
- Historical Timeline
- Landscape Scenarios
- Capital Assets / Sustainable Livelihoods etc.



Dotmocracy



VISUALIZATION



VISUALIZING SUSTAINABLE LANDSCAPES

Understanding and Negotiating Conservation and Development Trade-Offs Using Visual Techniques



AGNI KUNTUNI BOEDHINARTONO



HISTORICAL TIMELINE



Sentinel Landscapes & Seascapes

- Land rights
- Oil palm expansion
- Extractive industries
- Marine protected areas
- Small island & coastal community livelihoods
- Gender inequality
- Remittances
- *Adat / sasi* in NRM etc.



KALIMANTAN



Human - wildlife conflict



Industrial plantations



ELSEVIER

Contents lists available at SciVerse ScienceDirect

Global Food Security

journal homepage: www.elsevier.com/locate/gfs



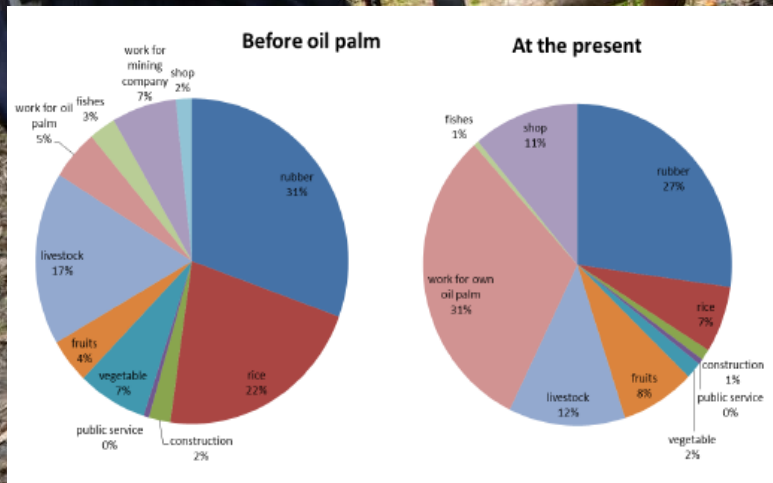
Oil palm expansion transforms tropical landscapes and livelihoods

Jeffrey Sayer^{a,*}, Jaboury Ghazoul^b, Paul Nelson^a, Agni Klintuni Boedhihartono^a

^a Tropical Environmental and Sustainability Science, School of Earth and Environmental Sciences, James Cook University, Cairns, Queensland 4870, Australia

^b Ecosystem Management, Department of Environmental Systems Sciences, ETH Zürich, 8092 Zürich, Switzerland

Typology of farmers: Smallholders, Plasma, Employees Assess livelihoods – Sustainable livelihoods framework





land



Article

Can Community Forests Be Compatible With Biodiversity Conservation in Indonesia?

Agni Klintuni Boedhihartono ^{1,2}

NORTH SULAWESI



Value chains

Geographical Research



Agroforestry on an Active Volcanic Small Island in Indonesia: Prospering with Adversity

MERCY MAGGY FRANKY RAMPENGAN^{1*}, AGNI KLINTUNI BOEDHIHARTONO²,
CHRIS MARGULES², JEFFREY SAYER¹, LISA LAW¹, JEAN-CHRISTOPHE GAILLARD²,
ONG THI NGAN TIEN¹ and TRAN THI MY LINH¹



Small Artisanal and Industrial Mines

Benefits of **artisanal mining** go to local people but poor health and safety

Industrial mining

Good health and safety program - profits go to investors



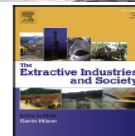
Dramatic environmental impact



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

The Extractive Industries and Society

journal homepage: www.elsevier.com/locate/exis



Original Article

Comparative development benefits from small and large scale mines in North Sulawesi, Indonesia

James Douglas Langston^{a,*}, Muhammad I. Lubis^{a,b}, Jeffrey A. Sayer^a, Chris Margules^{a,c}, Agni Klintuni Boedhihartono^a, Paul H.G.M. Dirks^{d,e,f}

LOMBOK





Forest tenure / rights & responsibilities



Village profile

Forest tenure and conflict in Indonesia: Contested rights in Rempek Village, Lombok



Rebecca Anne Riggs^{a,*}, Jeffrey Sayer^a, Chris Margules^{a,b}, Agni Klintuni Boedhihartono^a, James Douglas Langston^a, Hari Sutanto^{a,c}

^a Centre for Tropical Environmental and Sustainability Science, College of Science and Engineering, James Cook University, Cairns, QLD 4870, Australia

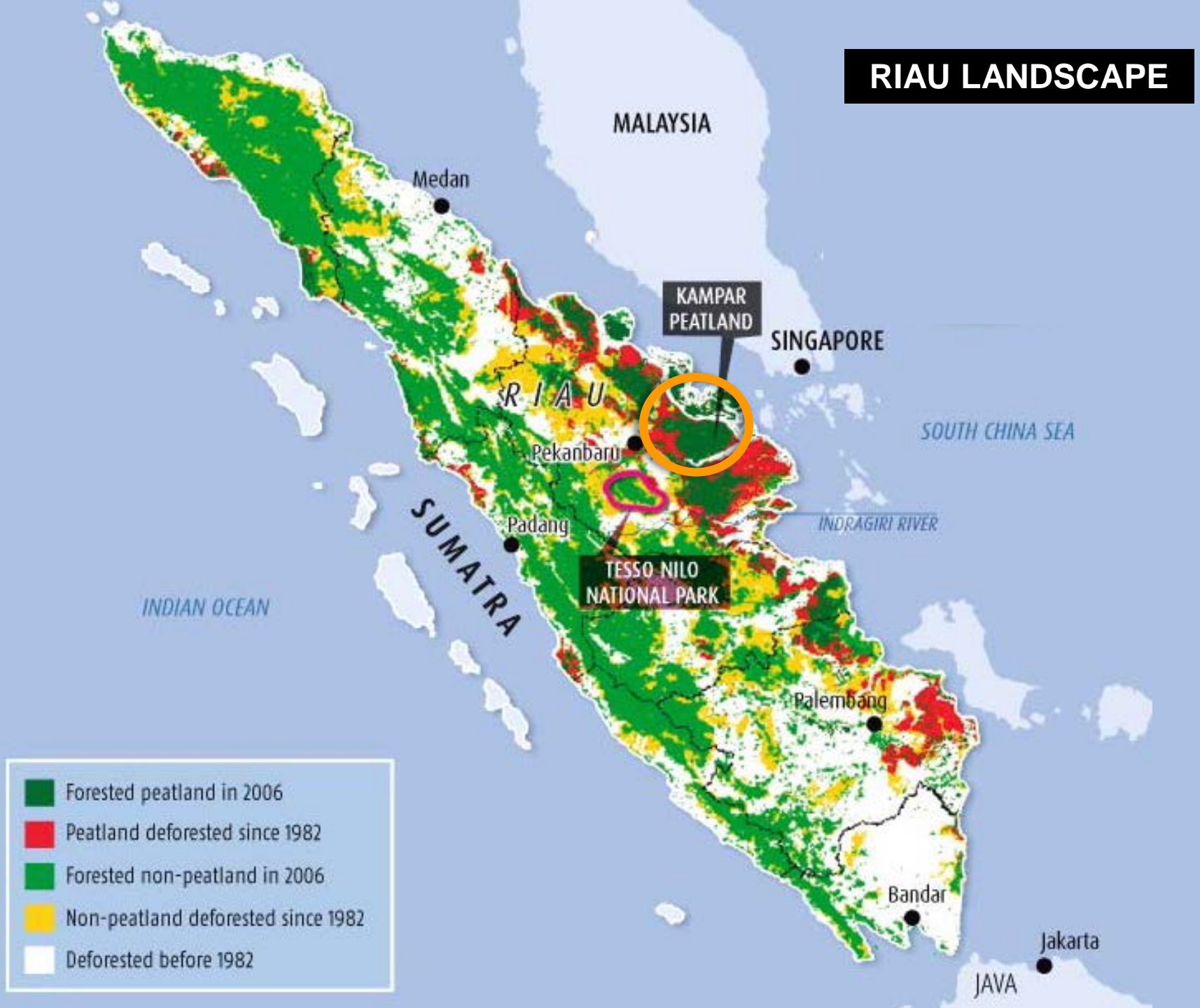
^b Research Center for Climate Change, University of Indonesia, Kota Depok, Jawa Barat 16424, Indonesia

^c Research and Development Agency of the Ministry of Interior of the Republic of Indonesia, Jl. Kramat Raya No. 132, Jakarta, Indonesia



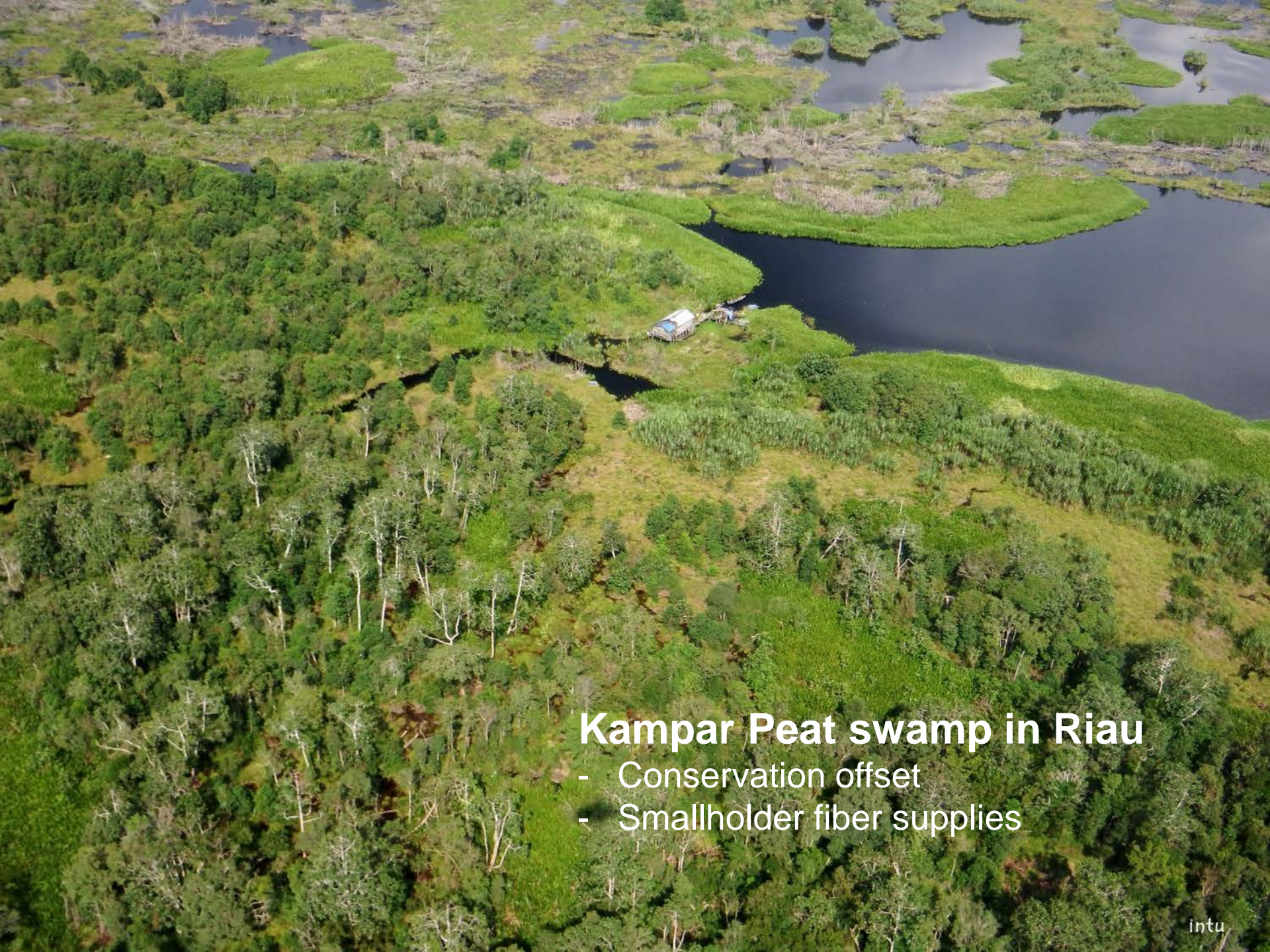
Community forestry - agroforests

RIAU LANDSCAPE



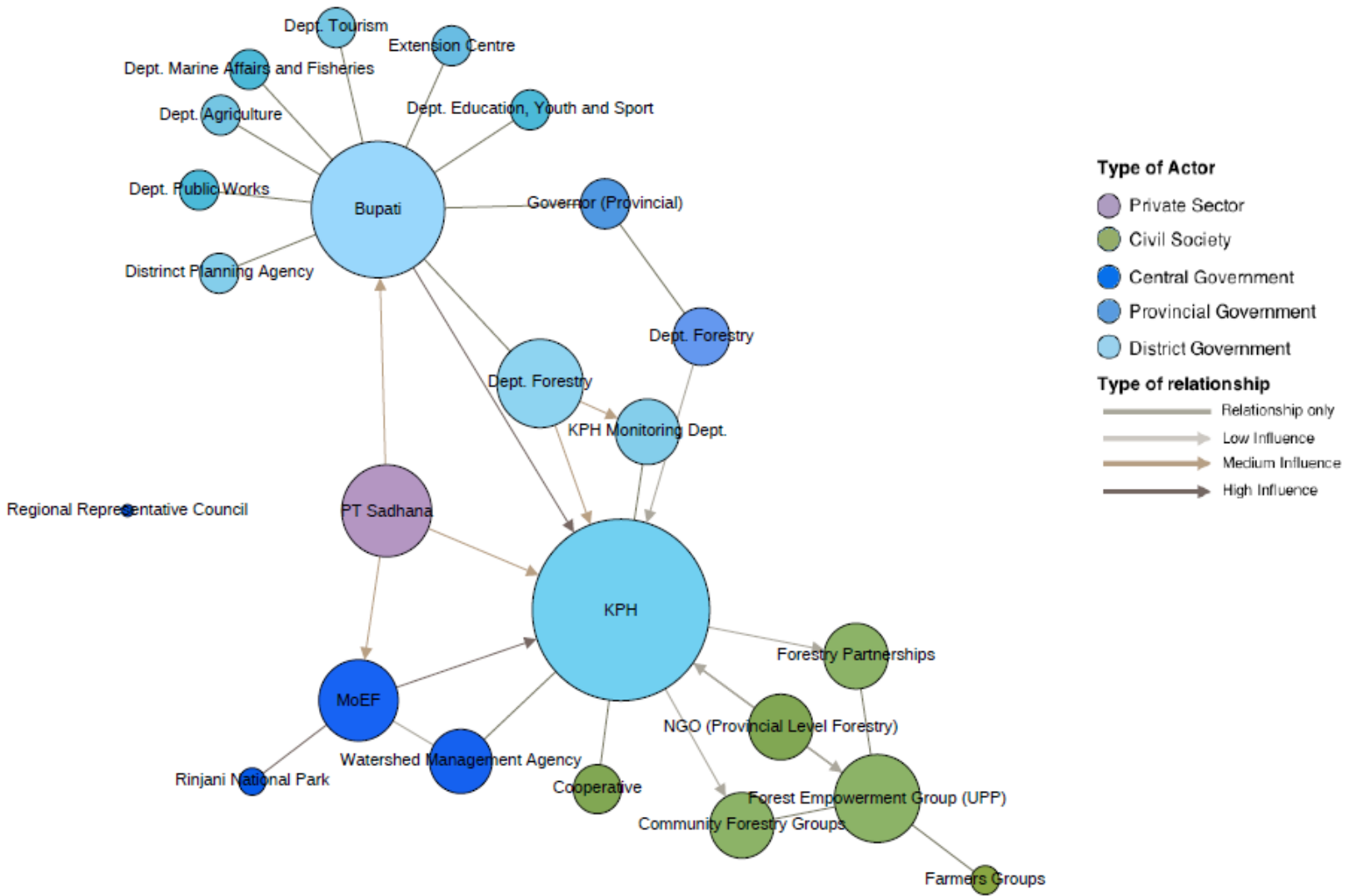


State-of-the-art pulp & paper mill



Kampar Peat swamp in Riau

- Conservation offset
- Smallholder fiber supplies

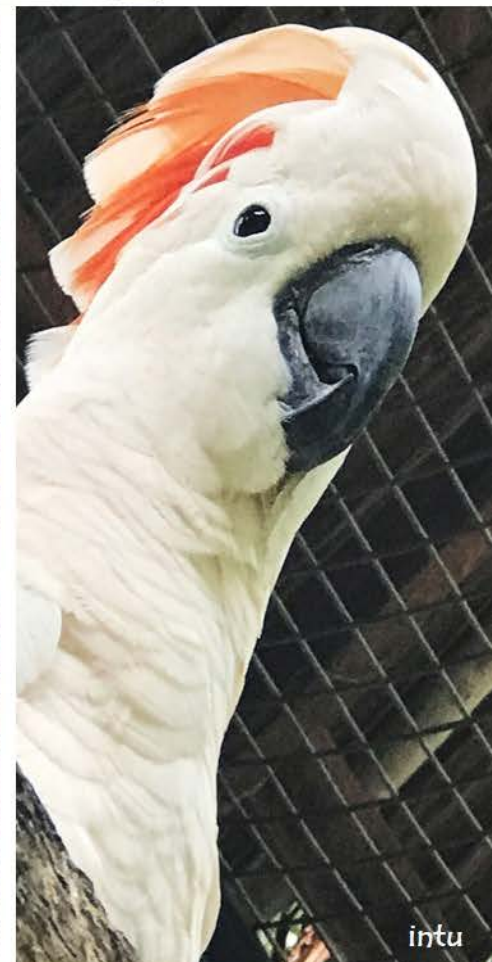


A landscape approach is about improving:

Governance

- Healthy economies
- Functioning legal systems
- Land rights and access
- Civil society empowerment
- Knowledge & transparency
- Ecosystems conserved





VISUALIZING LANDSCAPE

LEGENDS FOR SERAM ISLAND SCENARIOS



house



coconut trees



turtle



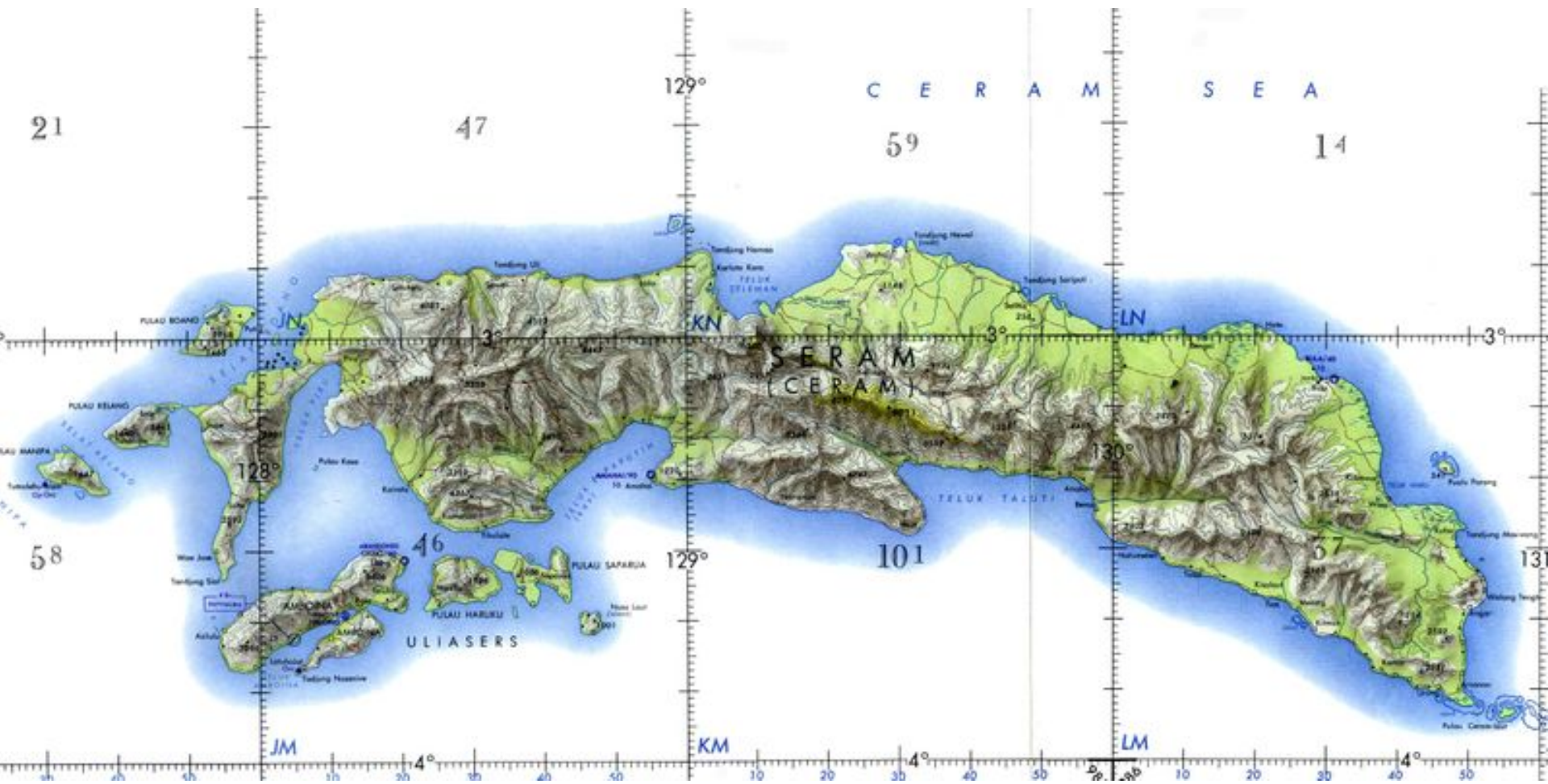
cassava

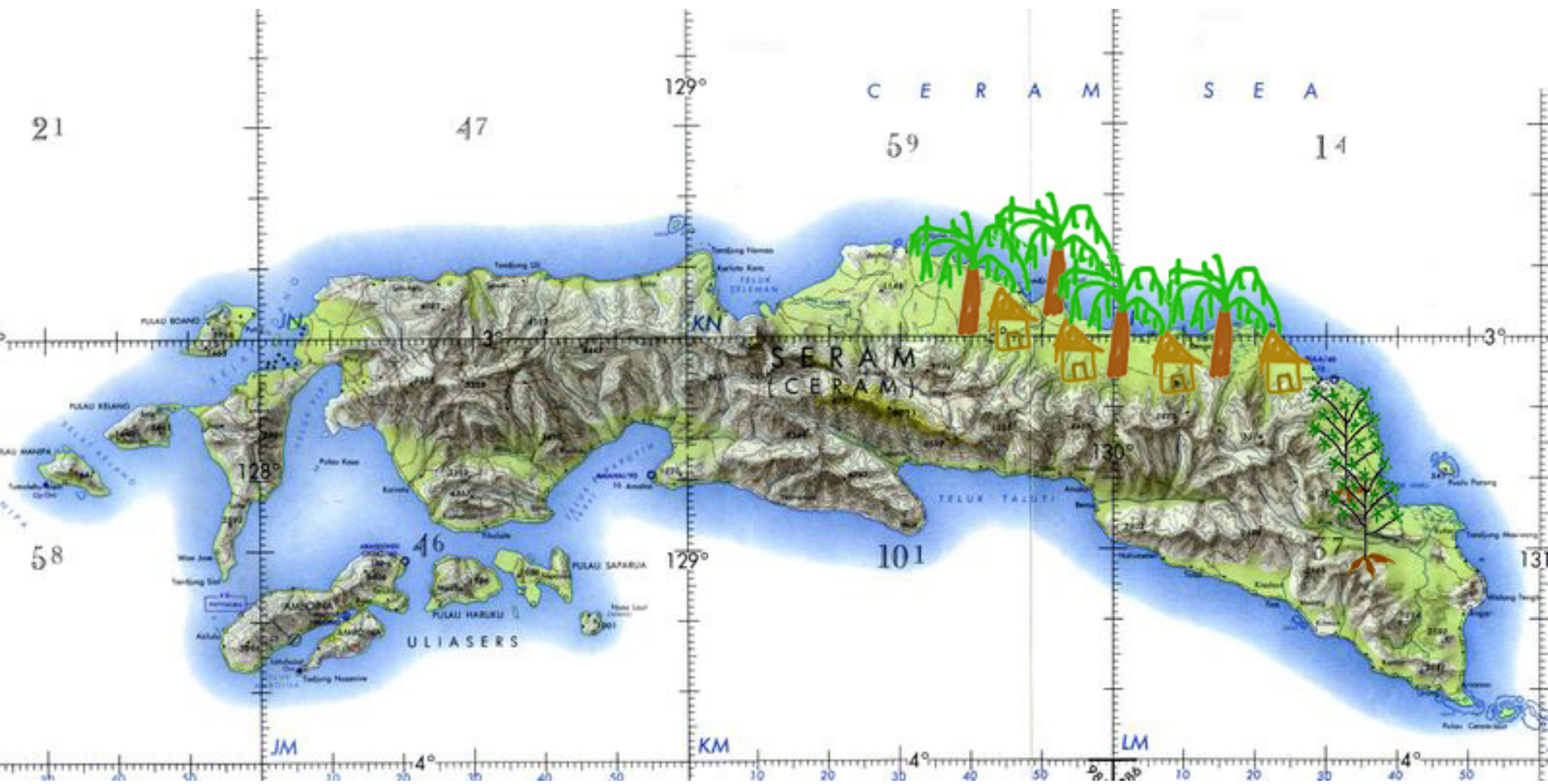


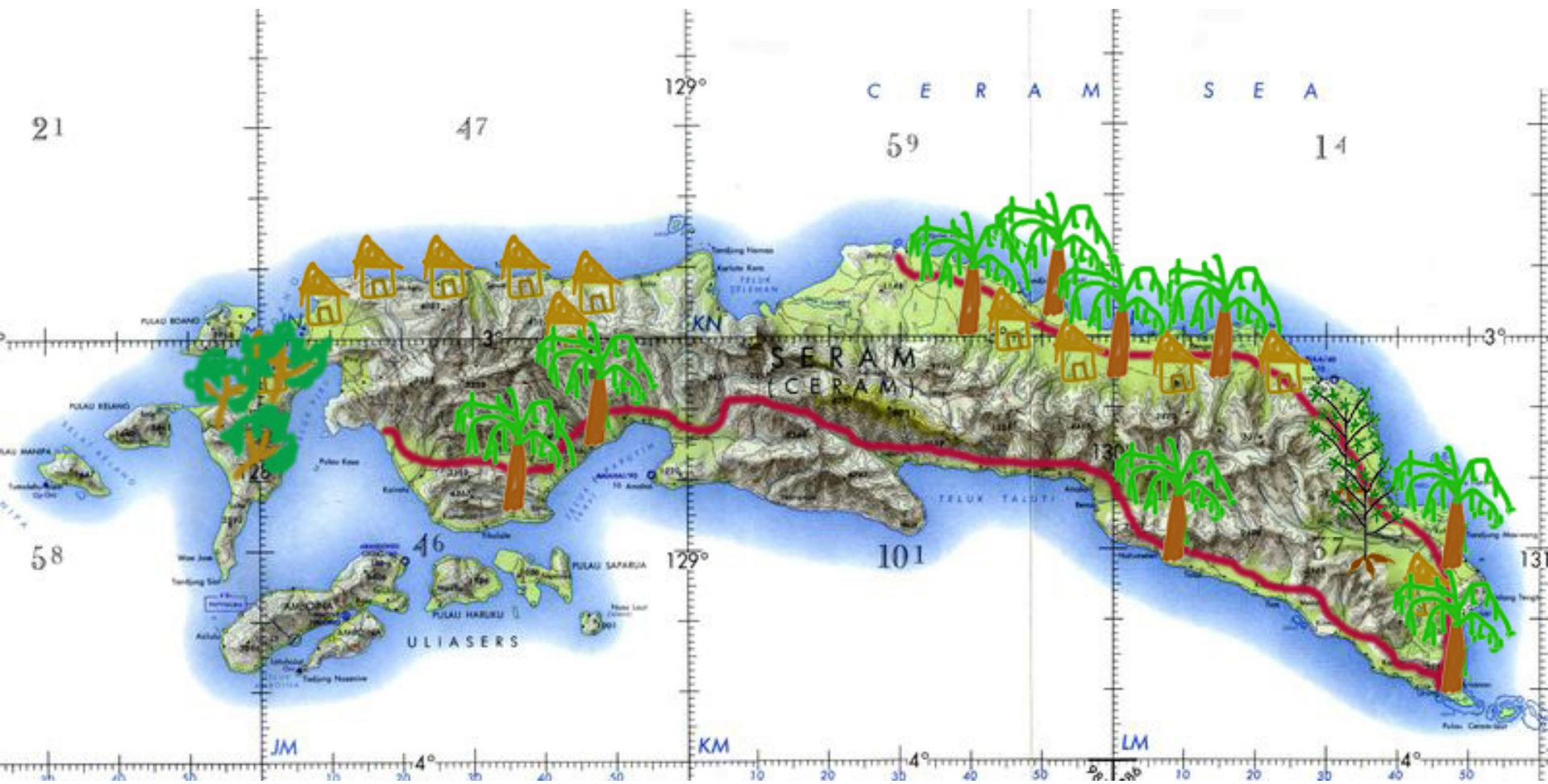
national park

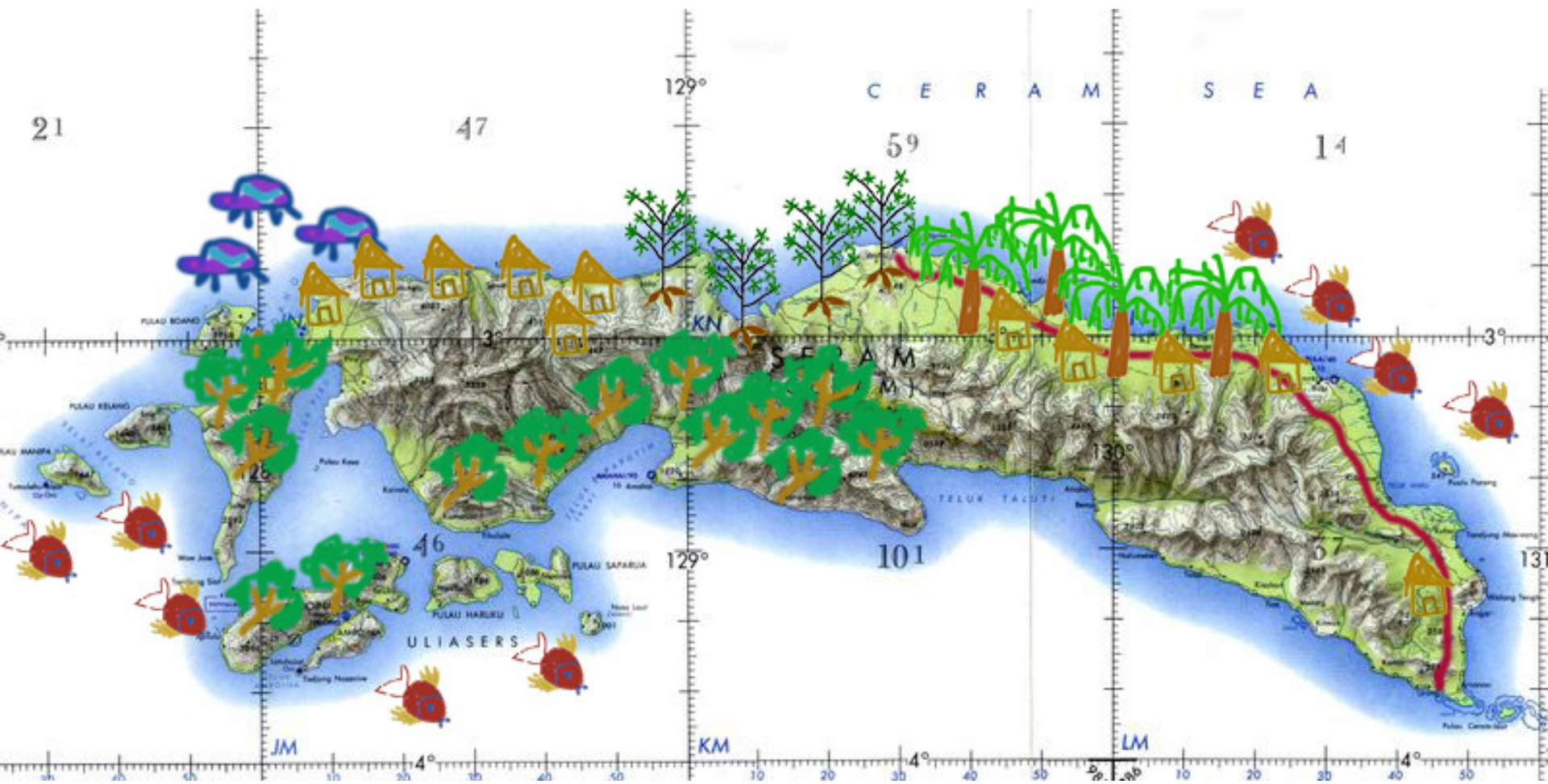


fish









Danke – Thank You

