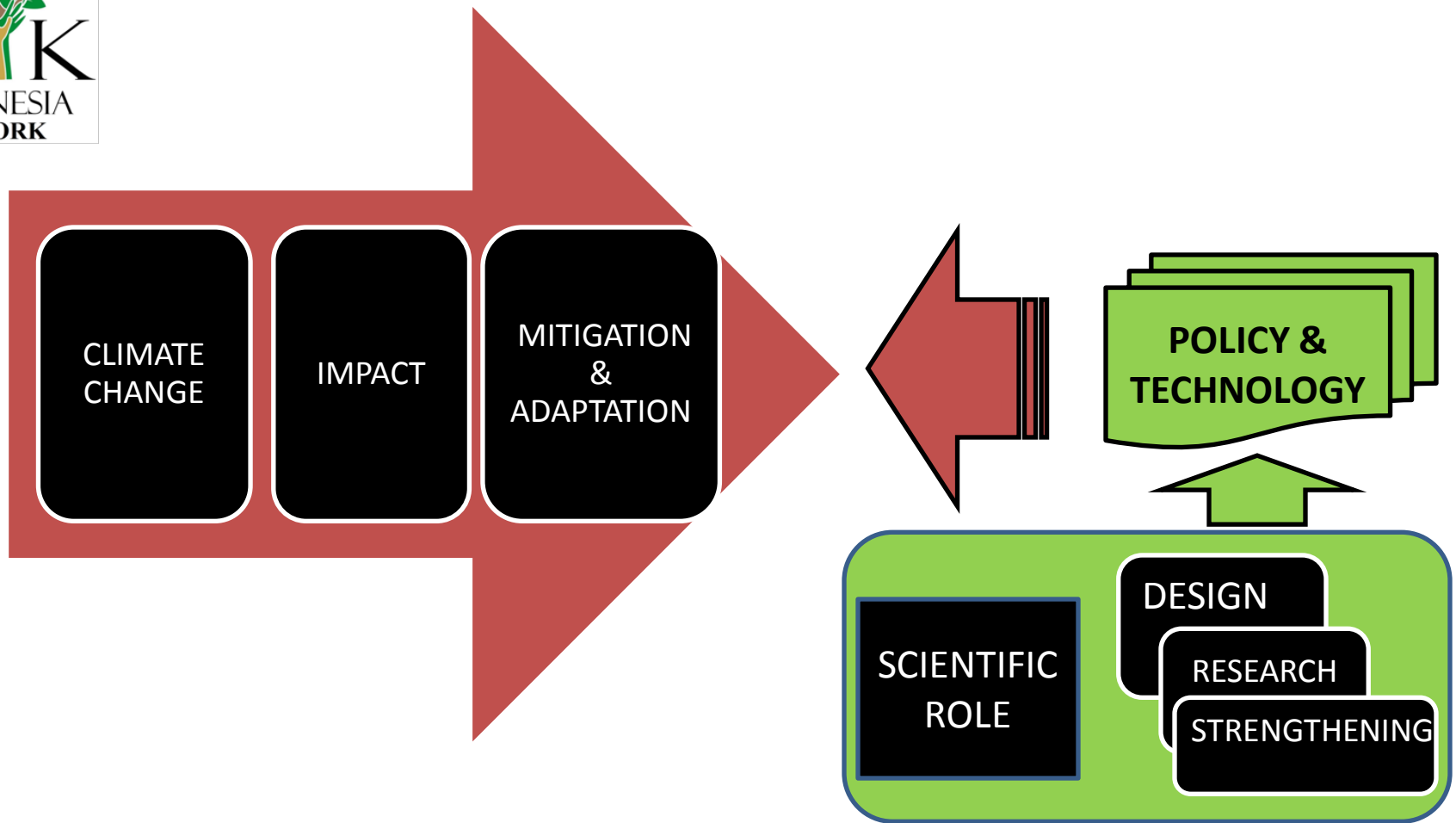


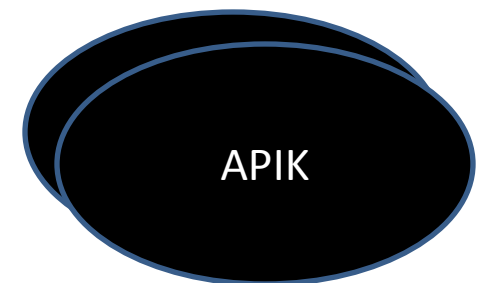


SCIENTIFIC ROLE IN DESIGNING DEEP DECARBONISATION STRATEGIES FOR LAND BASE SECTOR

A. RAUF



1. Gap information (global – national-sub national) or Government – stake holder
2. Many research activities without coordinating
3. Ecosystem variability
4. Resources



OVERVIEW

APIK Indonesia Network

Climate Change and Forest Research Indonesia Network

Mission

- To Gathering academicians and scientists to develop and practice of knowledge and technology in the field of climate change and forestry.
- As well as provide scientific input to the government to strengthen Indonesia's position at the international level and supporting national policy in controlling climate change and forestry



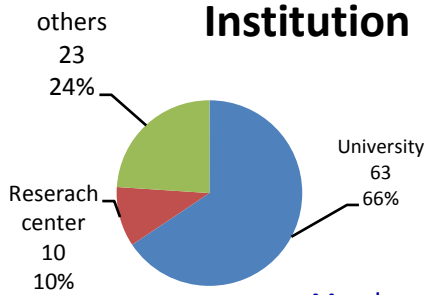
Task

- To conduct research, educate, campaign actions relate to Climate Change and Forestry
- To review publications papers (journal, report, policy brief, books, etc) dealing with Climate Change & Forestry Research especially in Indonesia.
- To assist and being a hub for giving information about Climate Change and Forestry for all stakeholders in the Global, National and Sub National levels

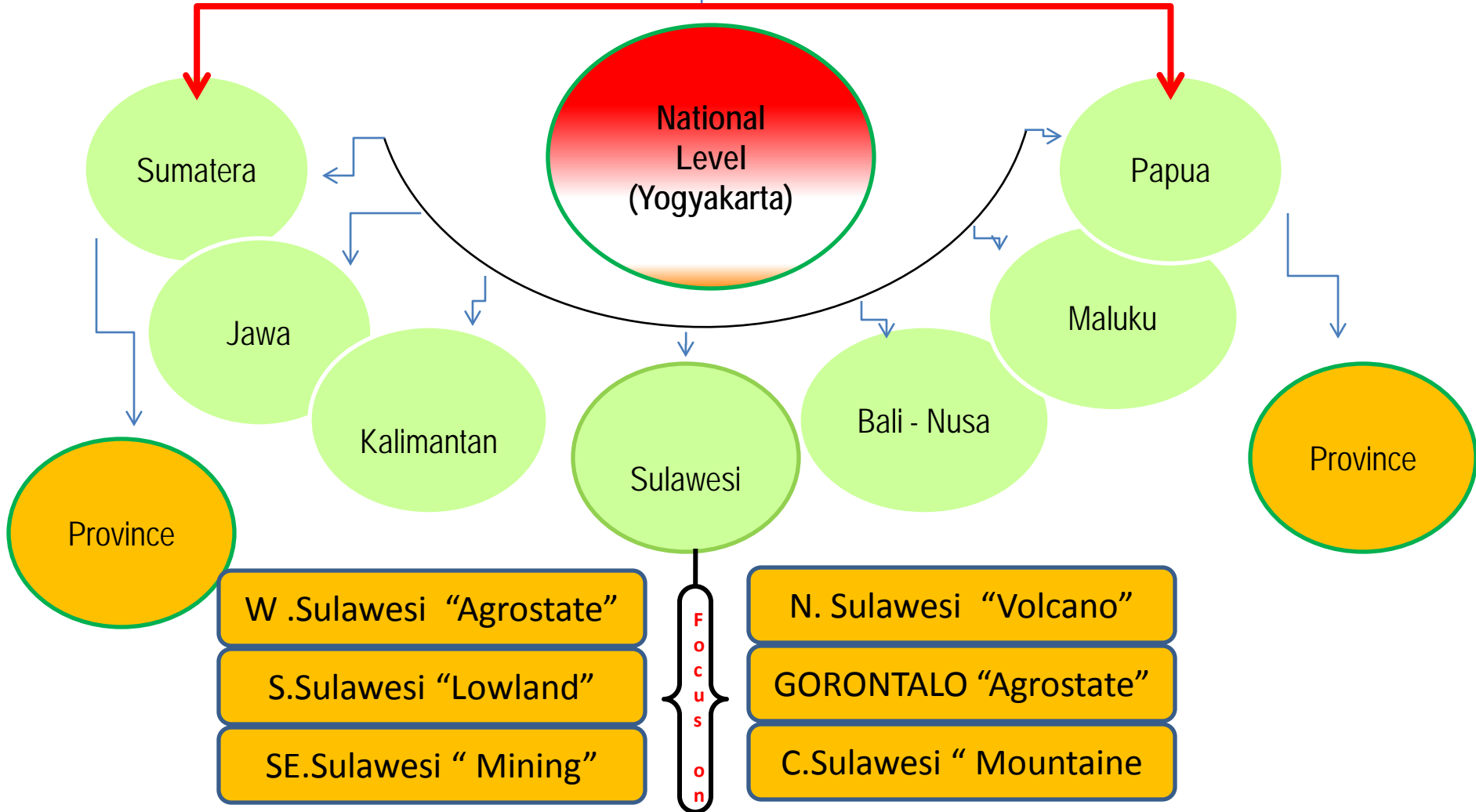


VARIABILITY OF ECOSYSTEM

Lowland to montane
Peatland-mineral land
Natural Forest - OLU



Members
382 persons

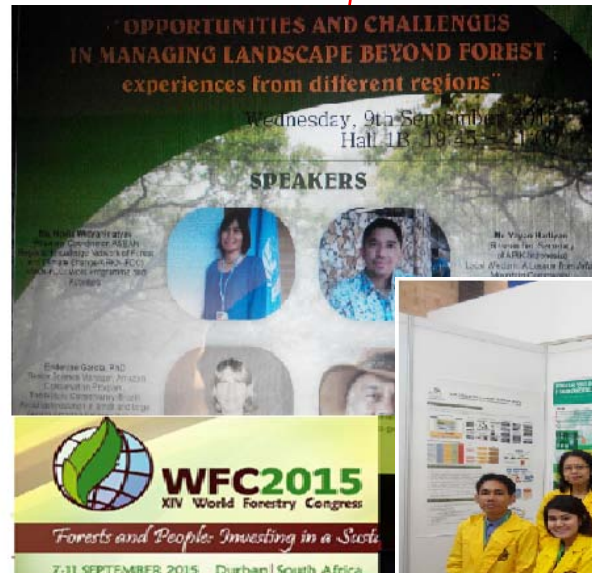
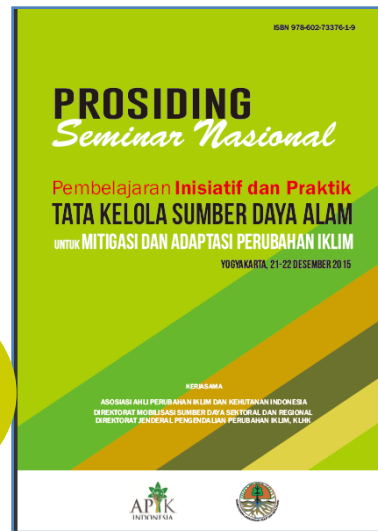


ACTIVITIES

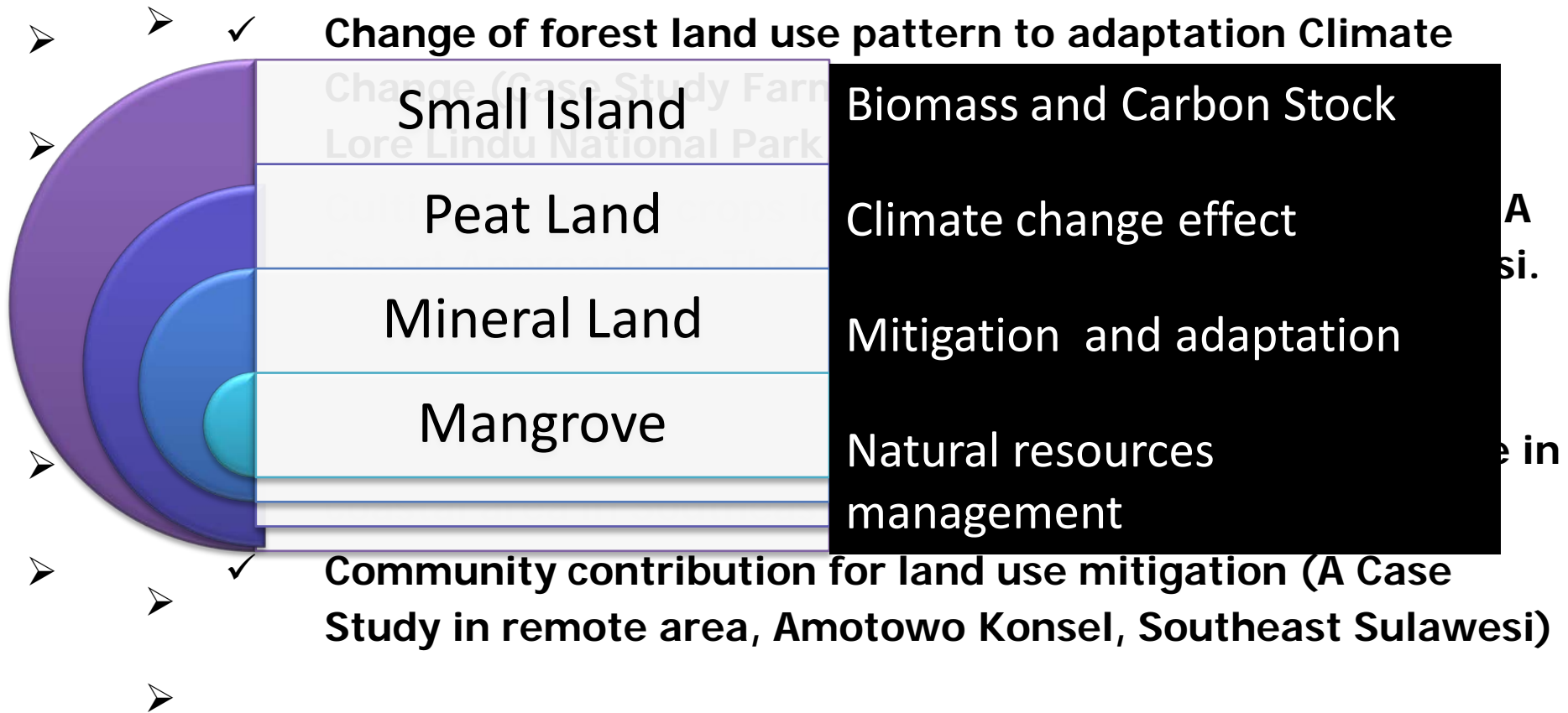
WORKSHOP/SEMINAR
National-Regional
(KS : BPREDD+, DJPPI etc)

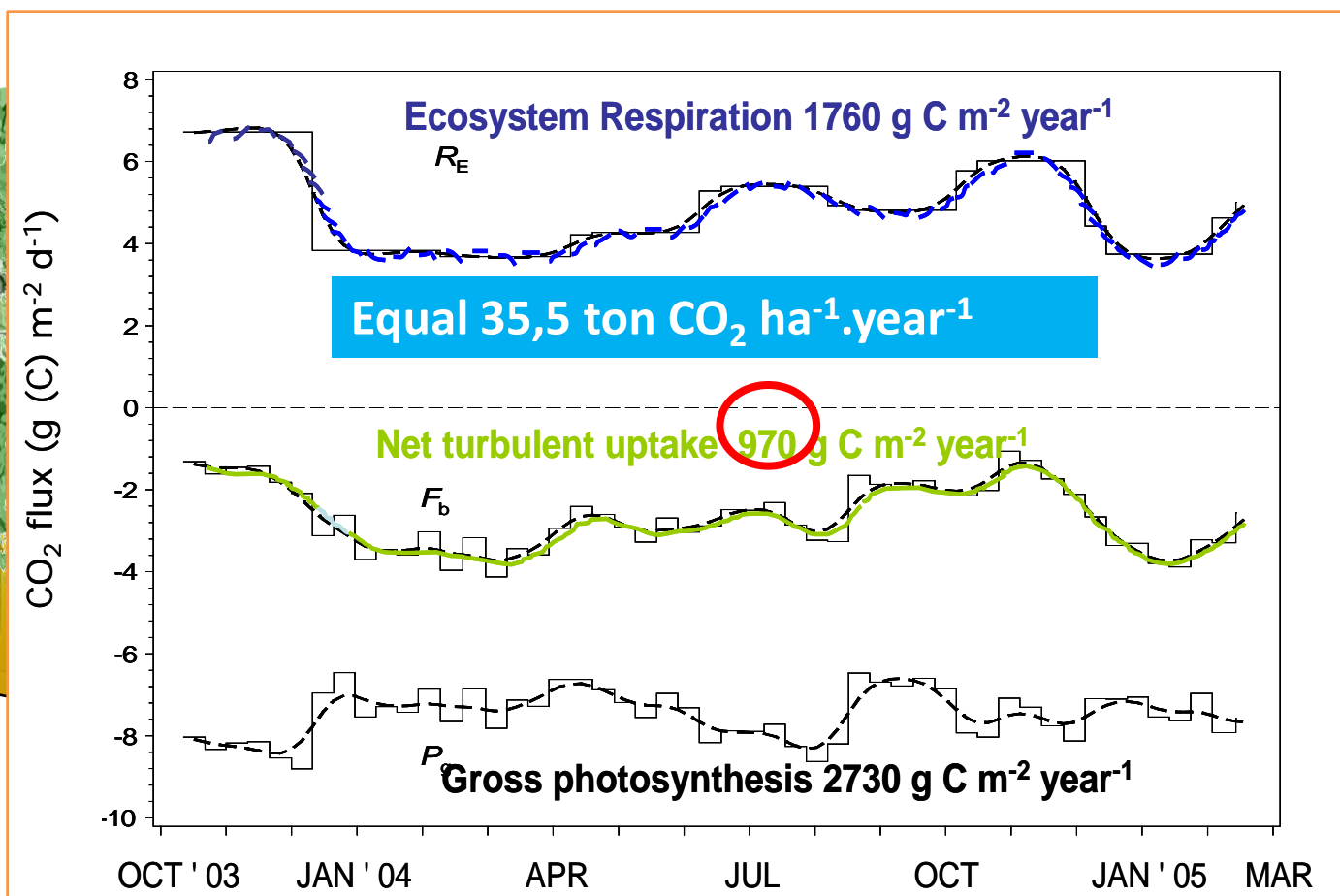
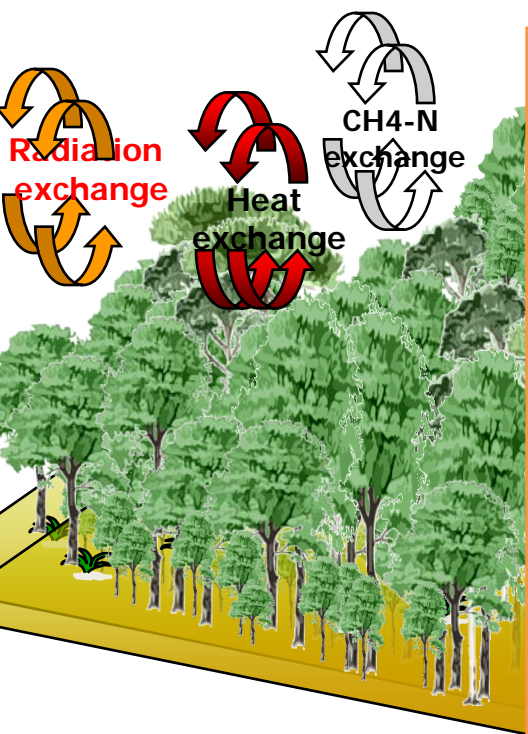
Conducting & Attending

- Event International
- Event National & Regional
- Policy maker meeting



Research Activities in Indonesia





Lost of Carbon storage in 1 Ha :
 Forest conversion to Cacao Agroforest
 as CO₂ : 16.78 kg/day ~ 6,12 ton/year

Karakteristik lokasi dan Vegetasi
 Nopu

Elevasi = 640 m dpl
 Curah hujan = 2500 –
 Temperatur = 2000



Forest conversion to open area
 as CO₂ : 97.44 kg/day ~ 35.57 ton/year

**A/Reforestasi Increasing of carbon
 absorption and storage**

Gambar 9. Potensi simpanan karbon pada kakao dan hutan

8. NEE	= 0.70 gC m ² /thn
9 Elevasi	= 1425 m dpl
10. Curah	= 1864 mm/thn
11 Suhu u	= 22 C

Vertical Energy flux 2005 -2006



Component	Rain			Dry		
Daily number (days)	200			165		
Turbulent Flux (MJ/m²/day) in primary Forest						
cooler~ Forest	10,25			10,80		
	7,22	70,41	% RH	67,45	7,28	
	2,25	21,93	% RH	32,17	3,47	
	Turbulent Flux (MJ/m²/day) Grassland					
	8,77			9,83		
	1,92	21,95	% RH	36,80	3,62	
6,92	78,89	% RH	63,49	6,24		

Results and Discussion:



Monthly fluxes (mean±SE) of (a) N₂O; (b) NO; (c) CH₄; and (d) WFPS from three land use types on permanent plots at the forest margins in Central Sulawesi, Indonesia (filled diamond: cacao, filled square: maize and filled triangle: secondary forest). Shaded area is dry season.

N₂O emissions:

- ◆ cacao (35 μg-N m⁻² h⁻¹) > ■ maize (9 μg-N m⁻² h⁻¹) ;
- ▲ secondary forests (25 μg-N m⁻² h⁻¹) similar to both.

NO emissions: no difference.

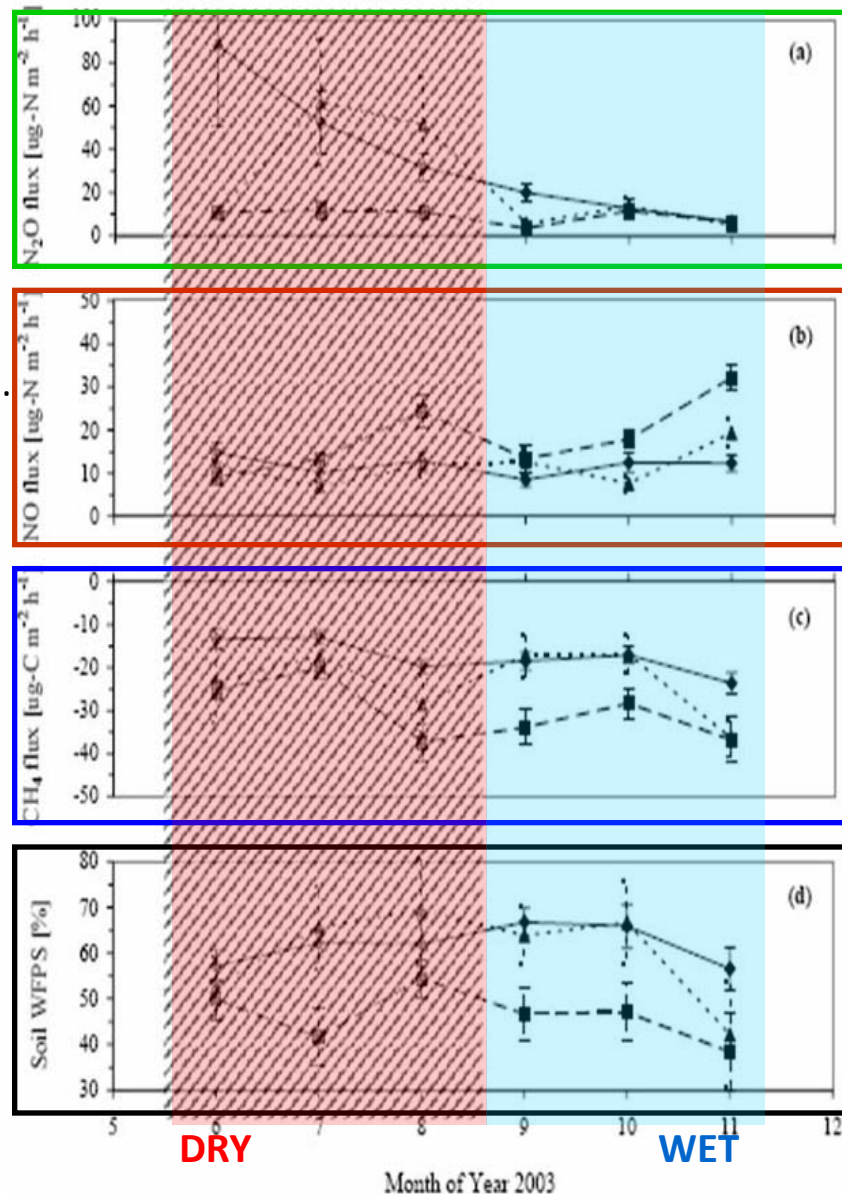
- 12 μg-N m⁻² h⁻¹ for ◆ cacao and ▲ secondary forest ;
- 18 μg-N m⁻² h⁻¹ for ■ maize.

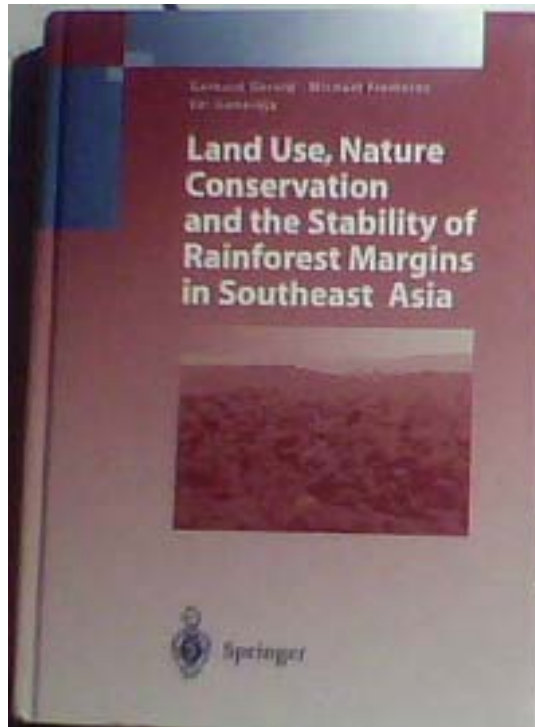
CH₄ uptakes:

- maize (-30 μg-C m⁻² h⁻¹) > ◆ cacao (-18 μg-C m⁻² h⁻¹) ;
- ▲ secondary forests (-23 μg-C m⁻² h⁻¹) similar to both.

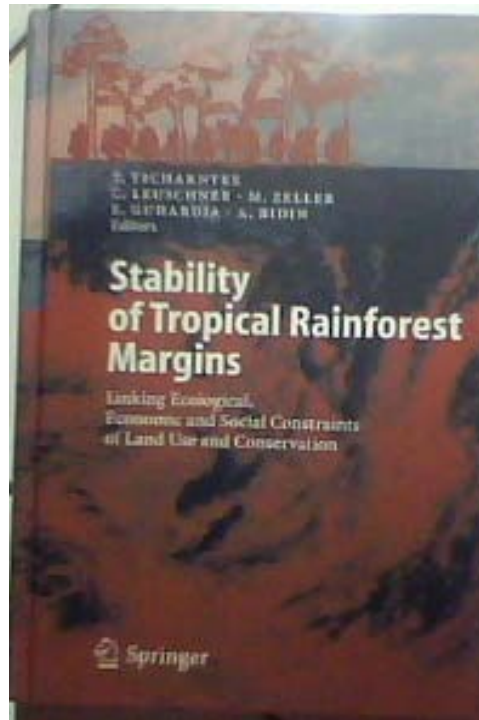
Soil water-filled porespace (%):

- ◆ cacao (61.8%) = ▲ secondary forests (60.1%) > ■ maize (46.3%),

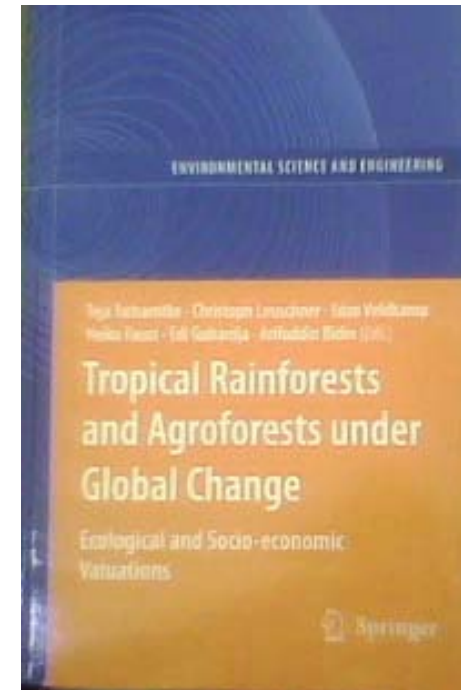




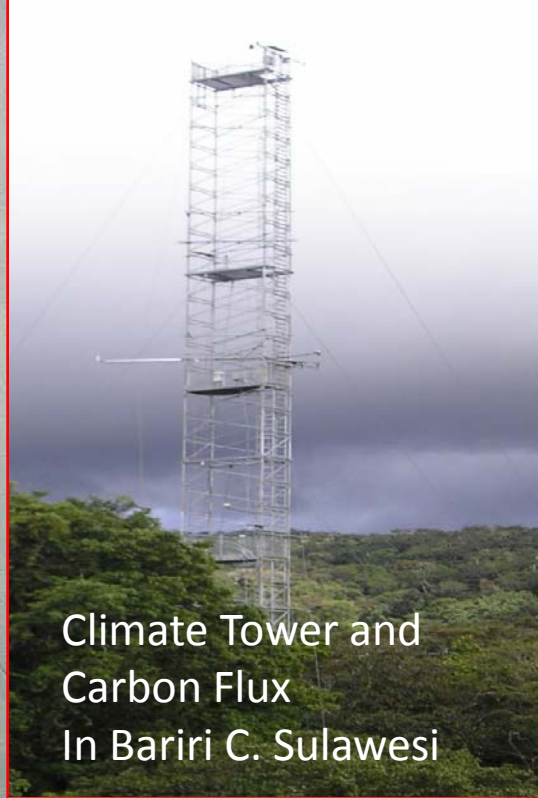
2000-2003



2004-2006



2006-2009



Climate Tower and
Carbon Flux
In Bariri C. Sulawesi

CLIMATE TOWER AND CARBON FLUX
OIL PALM PLANTATION
JAMBI

RESEARCH COLLABORATION (IPB-UNTAD-UNJA-GAUG)



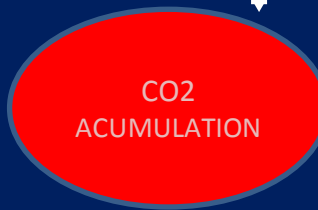
NEE gC/m²/year



Lost of Carbon Stock

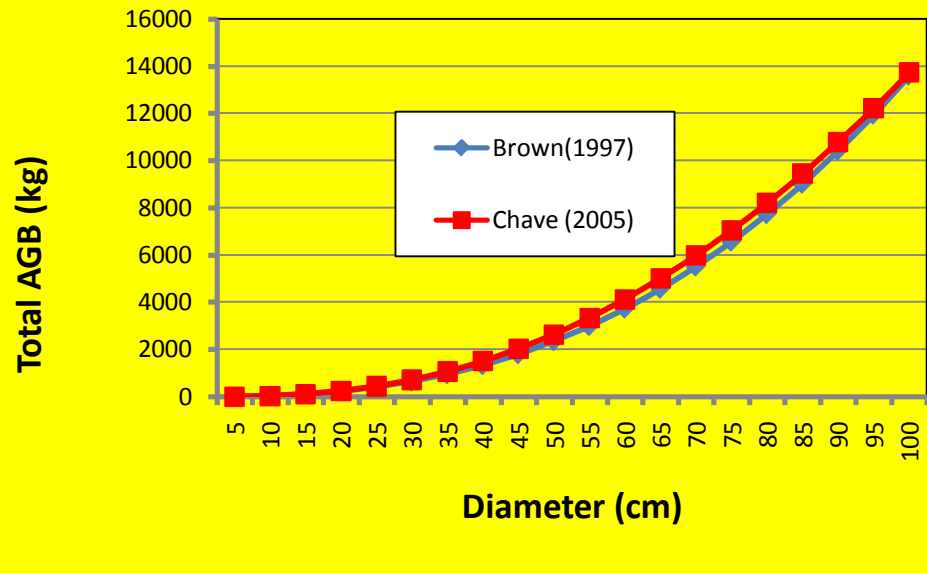
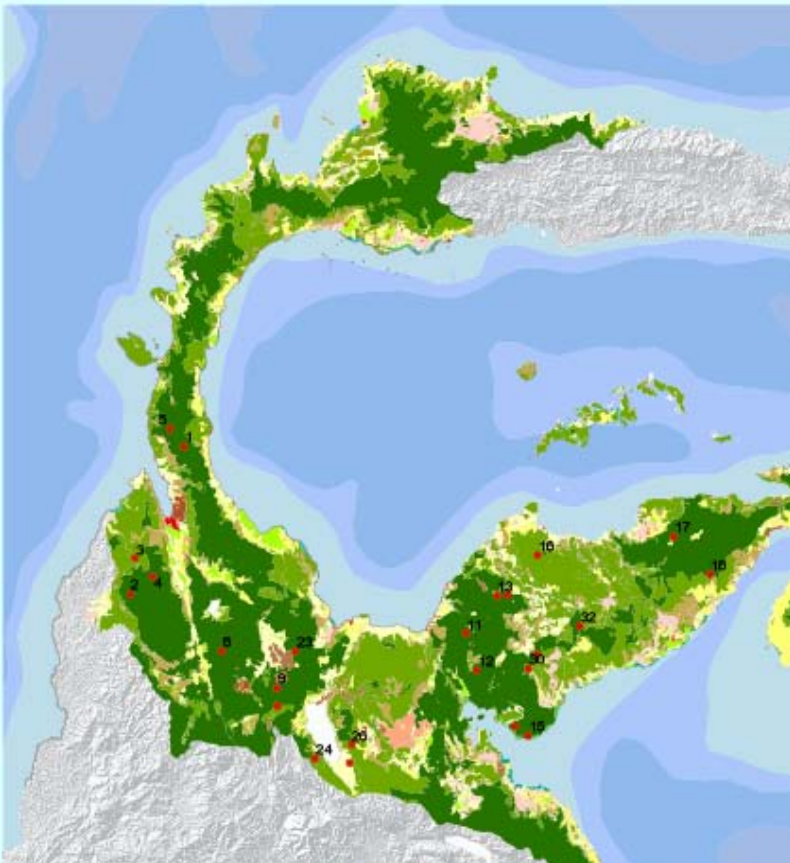


Lost of Carbon Storage



Carbon Stok ton C/ha

Source : Storma



	Vegetation (C ton/ha)	Soil (C ton/ha)	Total (C ton/ha)
rataan	137,9	108,1	246,0
Simpangan Baku	63,5	39,1	
Galat Baku	11,6	13,0	
Uncertainty	22,7	24,1	33,1
Uncertainty%	16,5	22,3	
Batas Bawah	115,2	84,0	212,9
Batas Atas	160,6	132,2	279,2

NFI AND FOREST CARBON UNTAD & UNREDD

ADVICE AND SUPPORTING

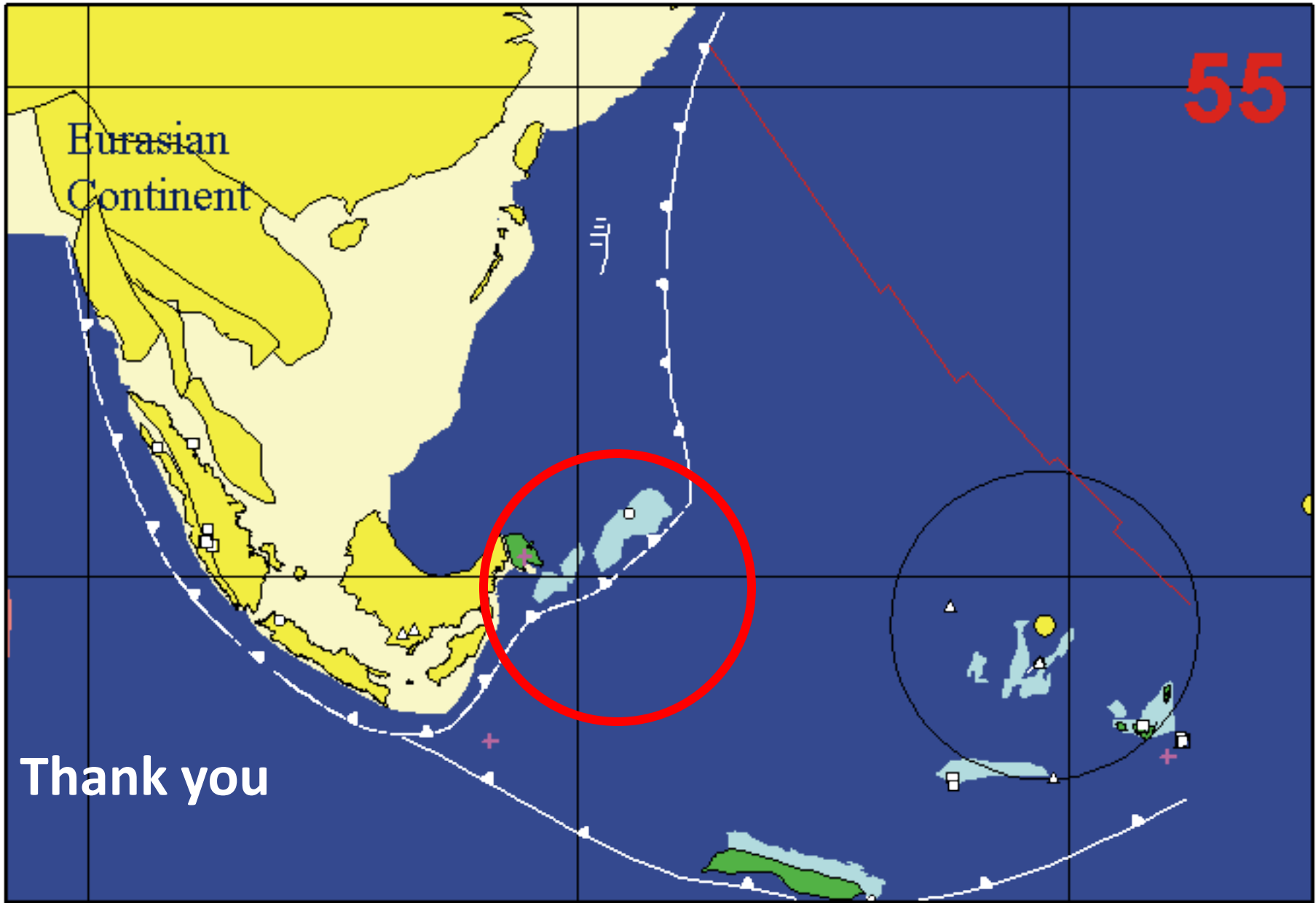


Challenges and Opportunities

- Many research have been conducted individually (mostly from their Institution) and less supported with better equipment/tools and appropriate methodology.
- Reasonable amount of budget research need to improve for having better results of research.
- However, huge areas and abundant members of **APIK** from **Sumatra** (west) to **Papua** (east), **Sulawesi** (north) to **Java** (south) which is rich with ecosystem diversities and human resources promise to strengthening and supporting International, National & Sub National program “reduce carbon emission”

Therefore,

APIK Indonesian network promote and invite all stakeholders to collaborate in all activities which relate to climate change and forestry.



Thank you