Peatland management and paludiculture options in South East Asia

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RRR Conference

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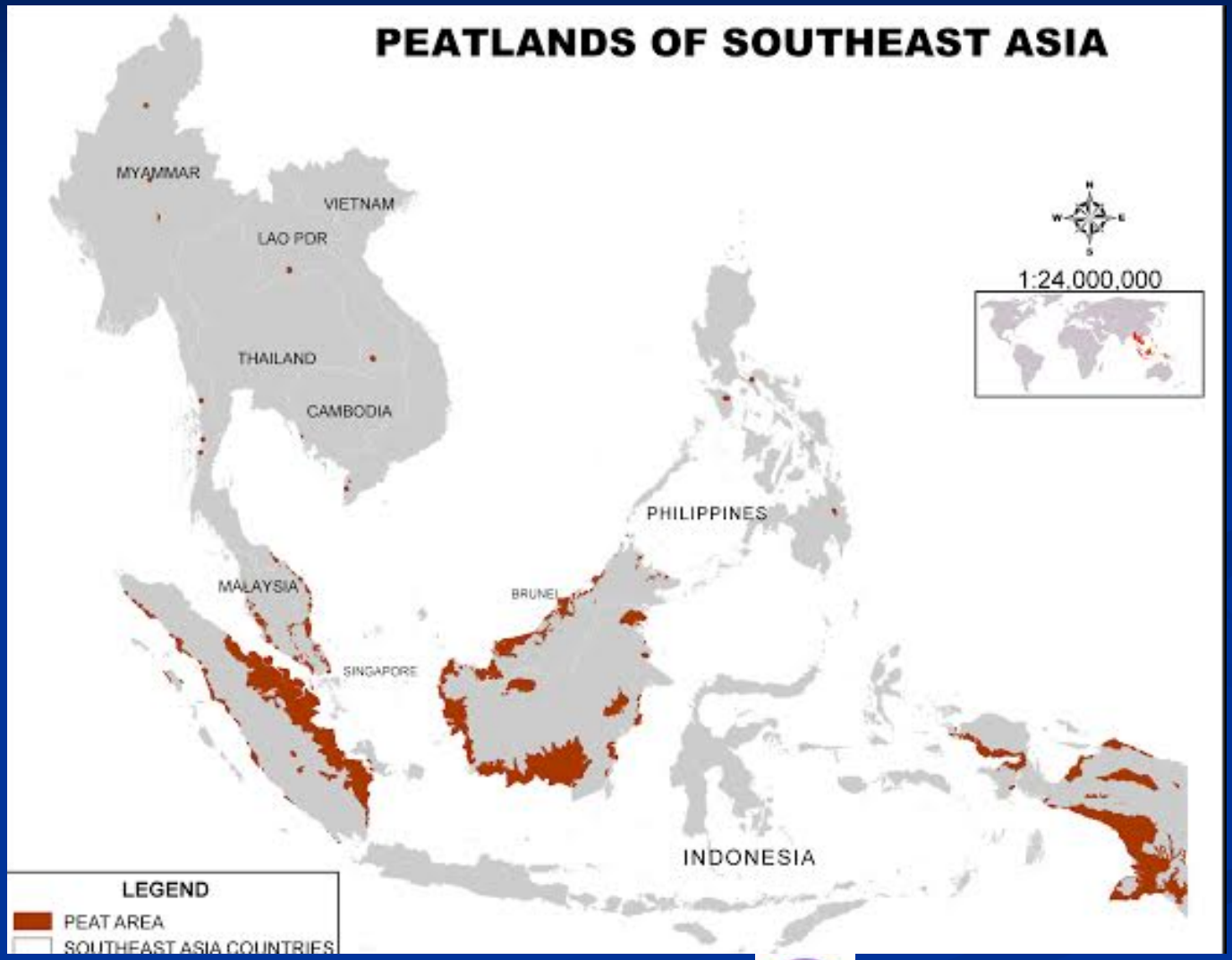
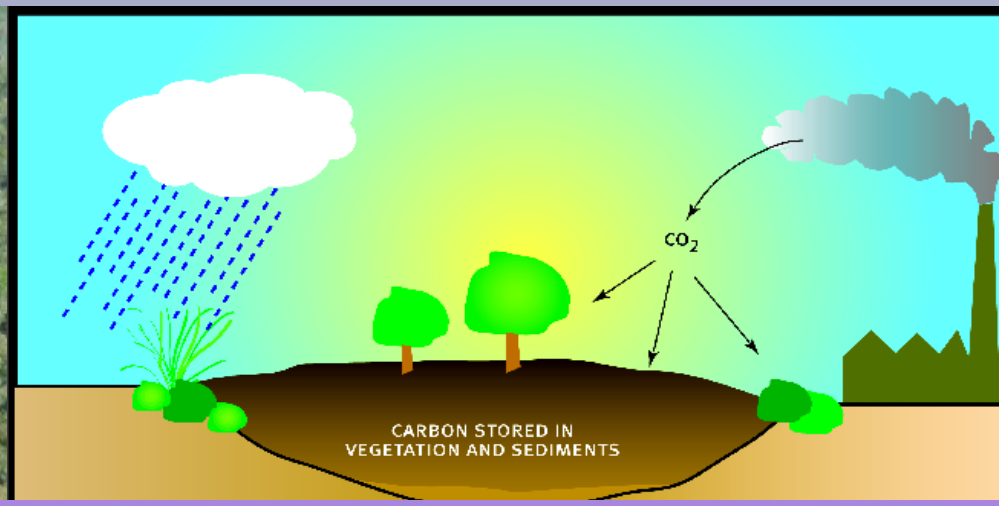
Peatlands cover 23 million ha in Southeast Asia



Source: ASEAN Peatland Forests Project (APFP)

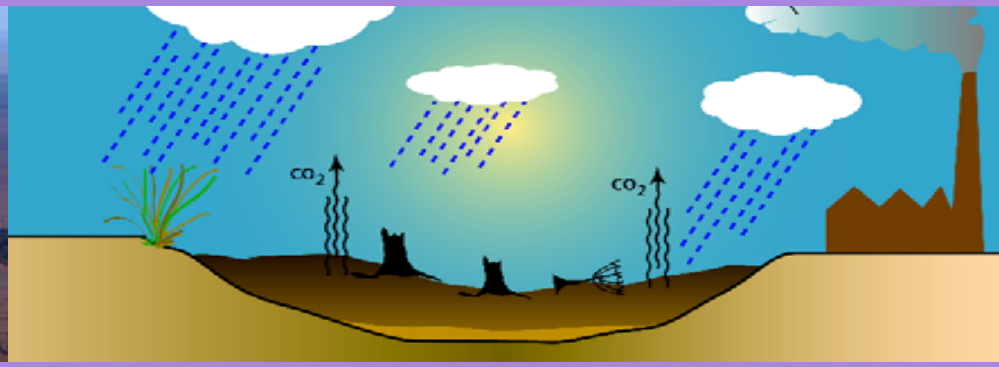
SE Asia Peatlands are important for carbon storage and reducing GHG emissions



Peatland carbon stores:

Global: 550 billion tonnes; SE Asia: 60 billion tonnes (12%)

Twice the carbon stored in all global forest biomass combined



But Peatland Emissions:

Global: 3-4 billion tonnes CO2/yr; SE Asia: 1.-2 billion tonnes CO2/yr (50%)

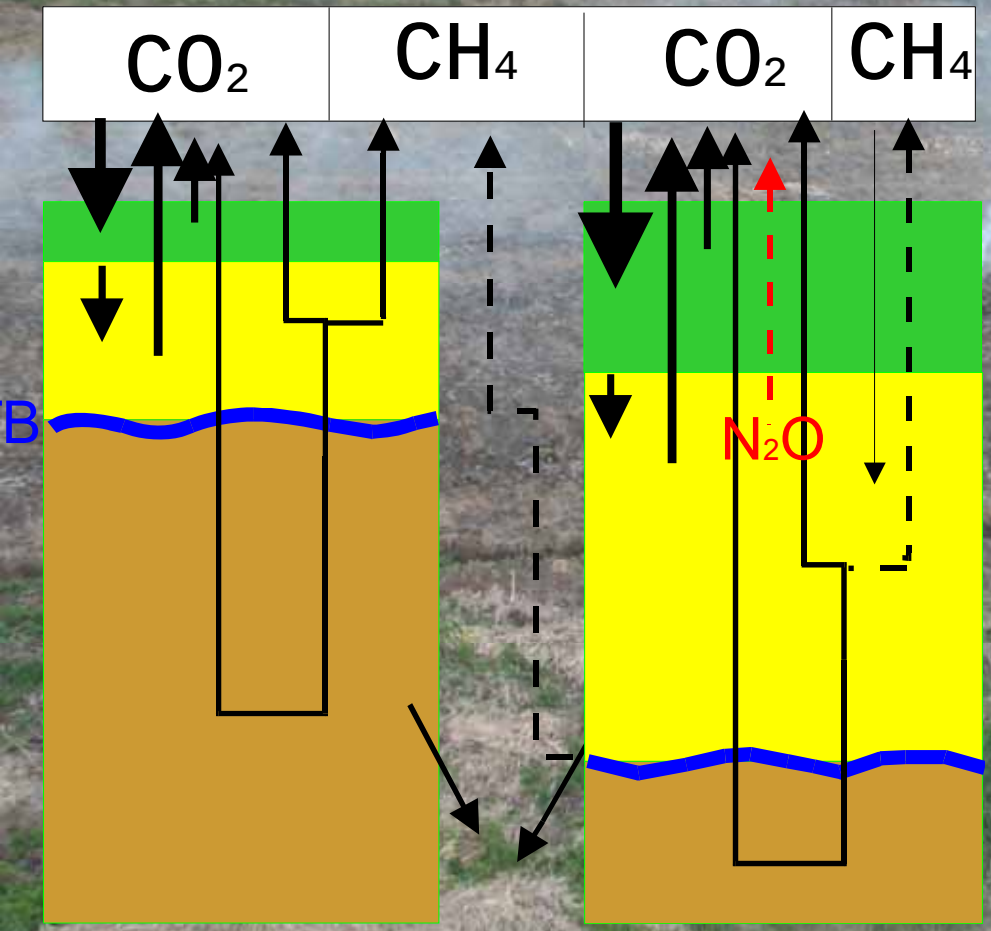
Equivalent to 6-7% of global fossil fuel emissions

ASEAN Peatlands: Key for water storage and flood prevention

- Peatlands: Key for water storage and regulation
- Provides Water - Prevents Floods

ASEAN Peatlands have high biodiversity

Peatlands regulate climate



Peatlands Feed communities

Fishing, Pahang, Malaysia

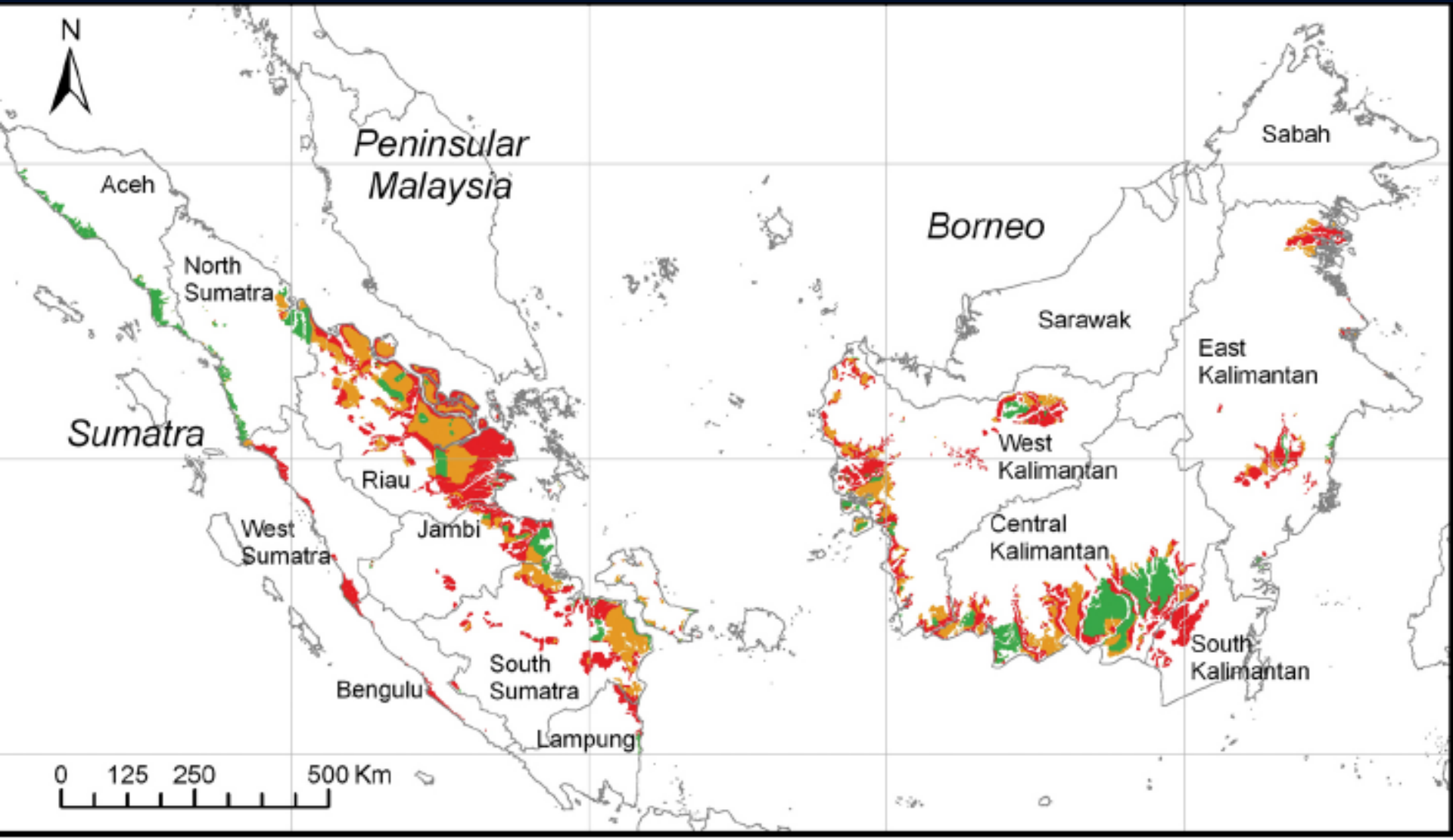
Source: UNDP-GEF PSF Project

ASEAN Peatlands support community livelihood

Jelutong - Chewing Gum Tree, Indonesia

Status in 2010
Malaysia, Sumatra, Kalimantan

Vegetation cover	Area (ha)	Percentage
Peat swamp forest	5,249,000	34
Secondary PSF	4,186,000	27
Mosaic PSF	1,326,000	9
Open	1,536,000	10
Plantation	3,120,000	20
Other	120,000	1
TOTAL	15,528,000	100
Source: Miettenen *et al*, 2012		

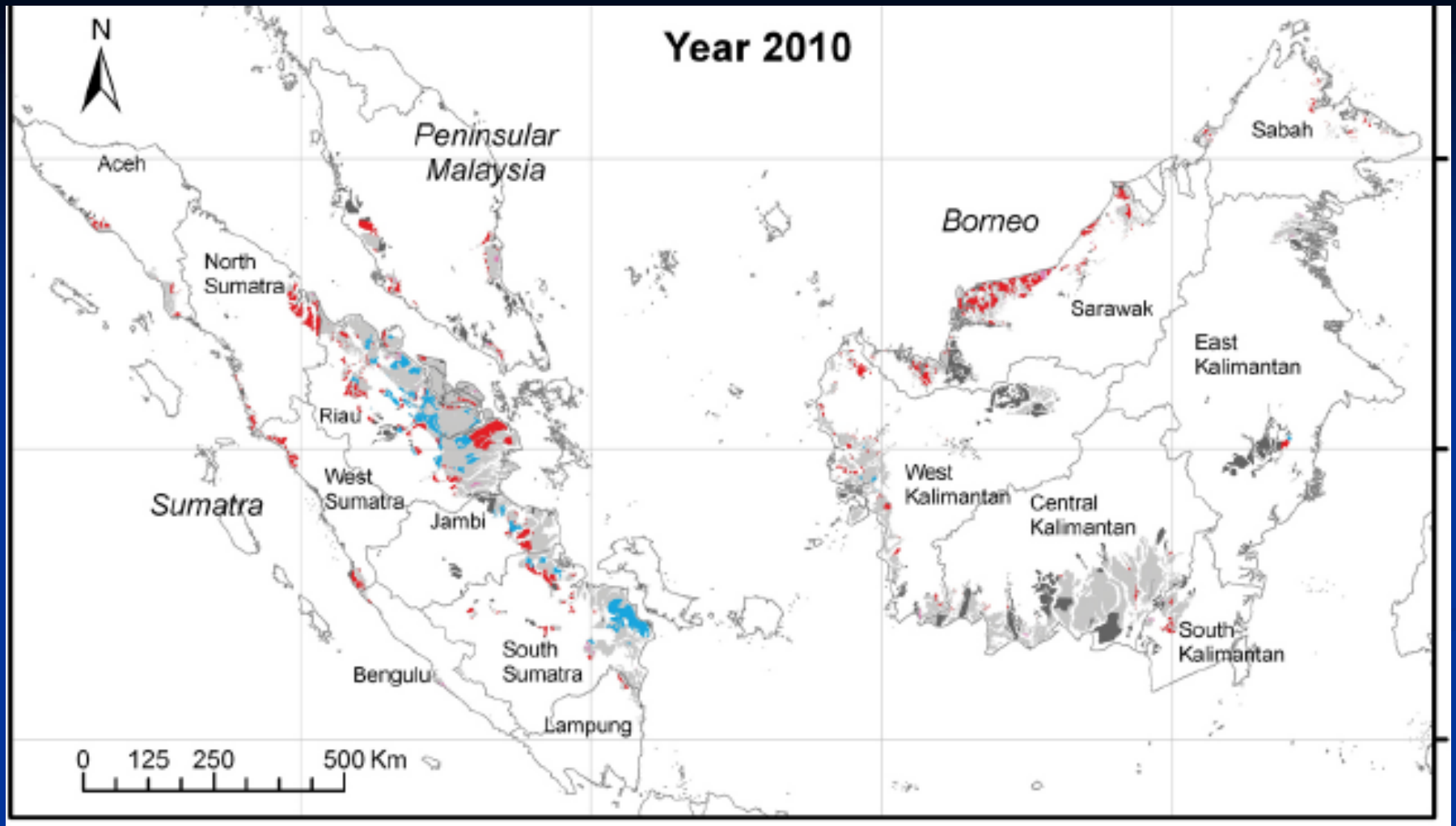


Land allocations

OP conversion

Selective logging

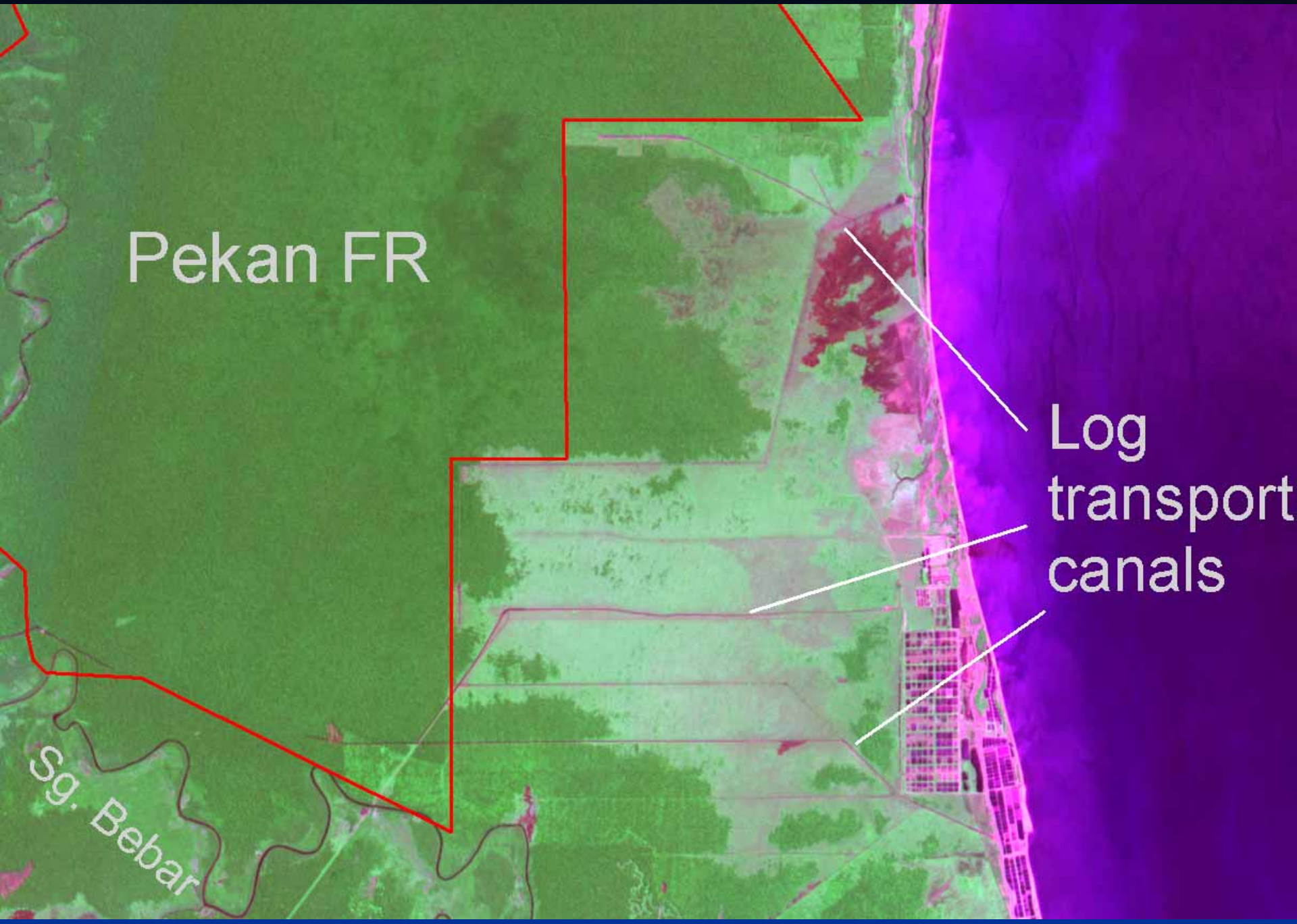
Other peatland



Legend

- Oil palm plantations
- Acacia plantations
- Other \ unknown plantations
- Other mapped peatland
- Unmapped peatland

Drainage with logging led to degradation and fires


Pekan FR
Log transport canals
Sg. Bebar


Oil palm development on peat

Peatland Degradation

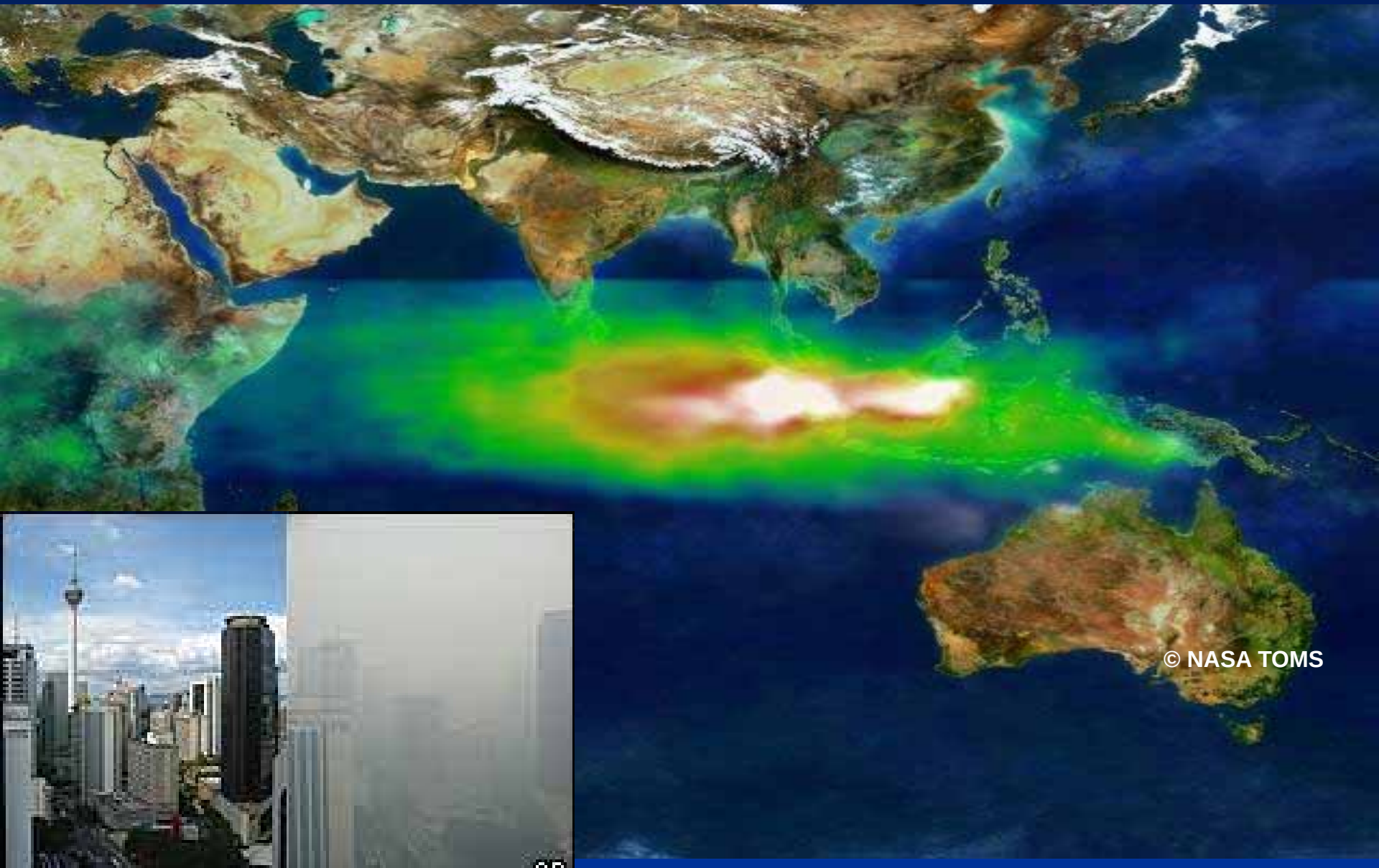
Peatland fires lead to transboundary smoke haze

MODIS image June 2005 -

Red dots: fires

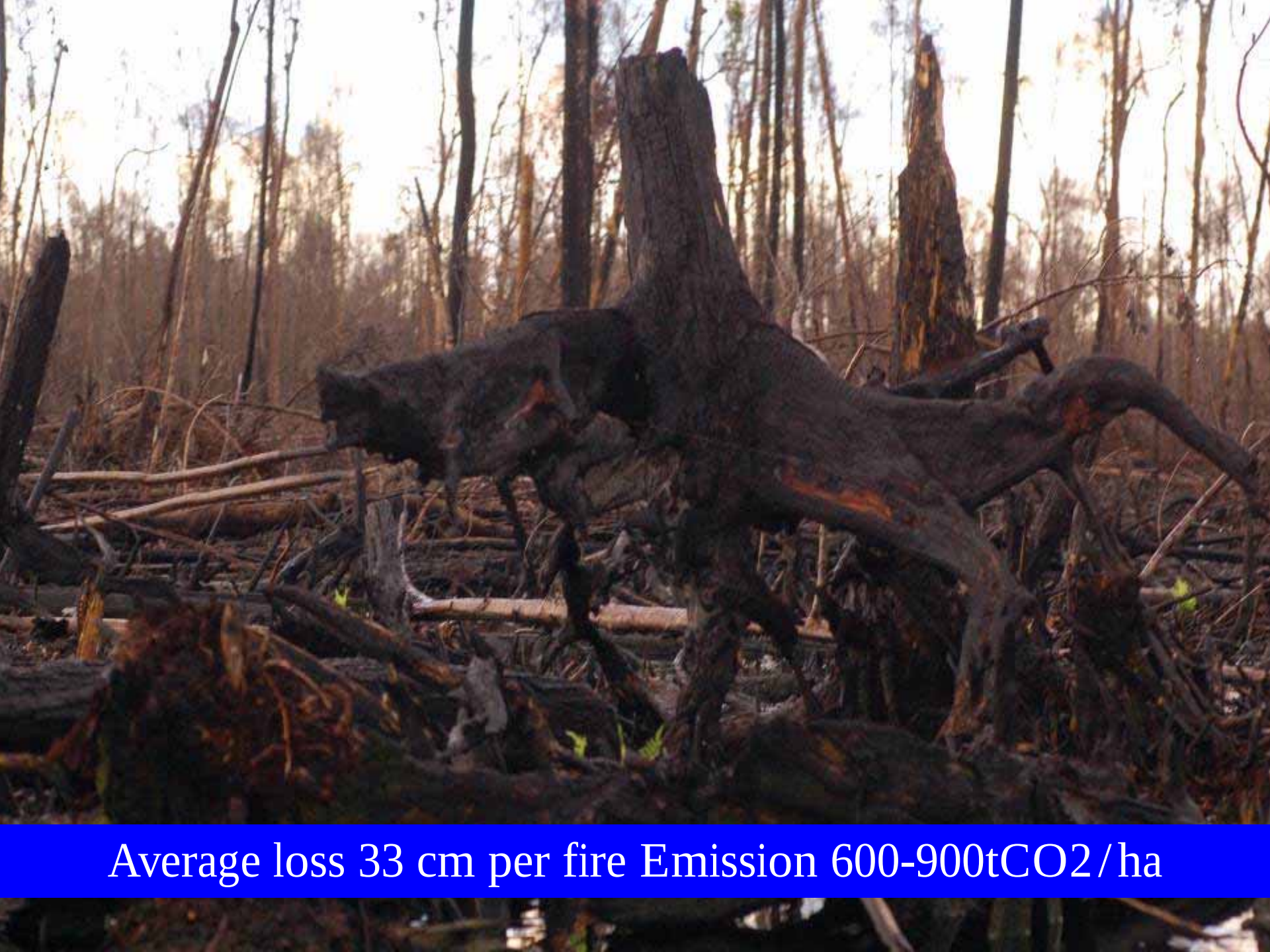
Courtesy MODIS Rapid Response Team

Smoke Haze is the most serious regional environment problem in ASEAN



90% of transboundary haze in southern SE Asia is from peatland fires

Ref: Max- Planck Institute ,2005

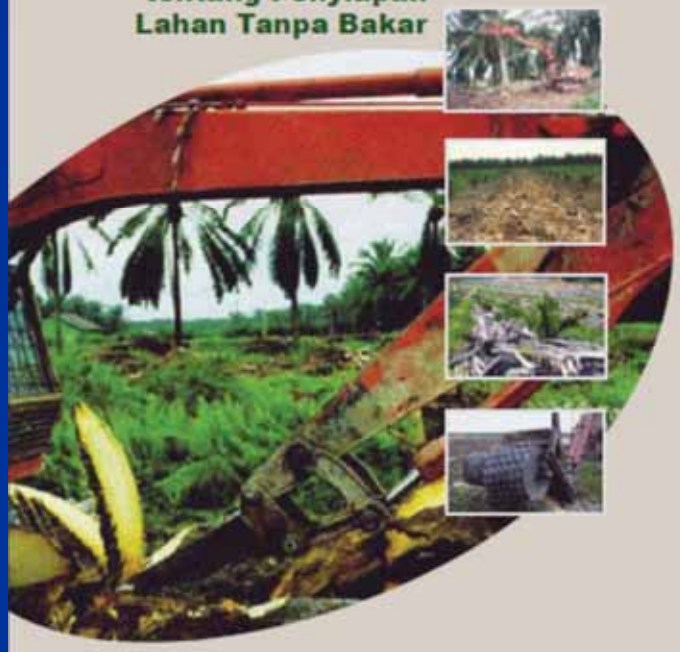


Average loss 33 cm per fire Emission 600-900tCO2/ha

Institutional Frameworks developed by ASEAN Member States

- ASEAN Agreement on Transboundary Haze Pollution (2002/2003)
- ASEAN Peatland Management Initiative (APMI) & ASEAN Peatland Management Strategy (APMS) 2006-2020
- APMS identifies key actions related to integrated peatland management, fire prevention, maintaining carbon stores and minimizing GHG emissions.
- National Action Plans on Peatland (NAPP)

Pedoman Pelaksanaan Kebijakan ASEAN tentang Penyiapan Lahan Tanpa Bakar



Didukung Oleh :

Dilaksanakan Oleh :

Penyusunan Pedoman ini dibiayai oleh :

ASEAN Haze Action Online
www.haze-online.or.id

Pedoman Pelaksanaan Praktek Pembakaran Terkendali

Integrated management best way to stop fire and haze

Abandoned canals and drains being blocked in peatland areas to raise water levels for fire prevention, control and rehabiliation

Natural recovery in 18 months with high water table

Recovery of degraded Forest five years after blocking drains

Nursery Technique


ตังหนใบใหญ่
Calophyllum teysmannii

Rehabilitation activity participated by public and local community

Best practices on peatland agroforestry in Indonesia

Agroforestry system: with ‘sorjan system: mixed jelutung and corn and vegetables, Central Kalimantan

Degradation of U Minh Thoung NP 2002

Forest fires in 2002

- ***About 80 percent of forest area of U Minh Thuong National Park was burnt.***
- ***Degradation of ecosystems and biodiversity***

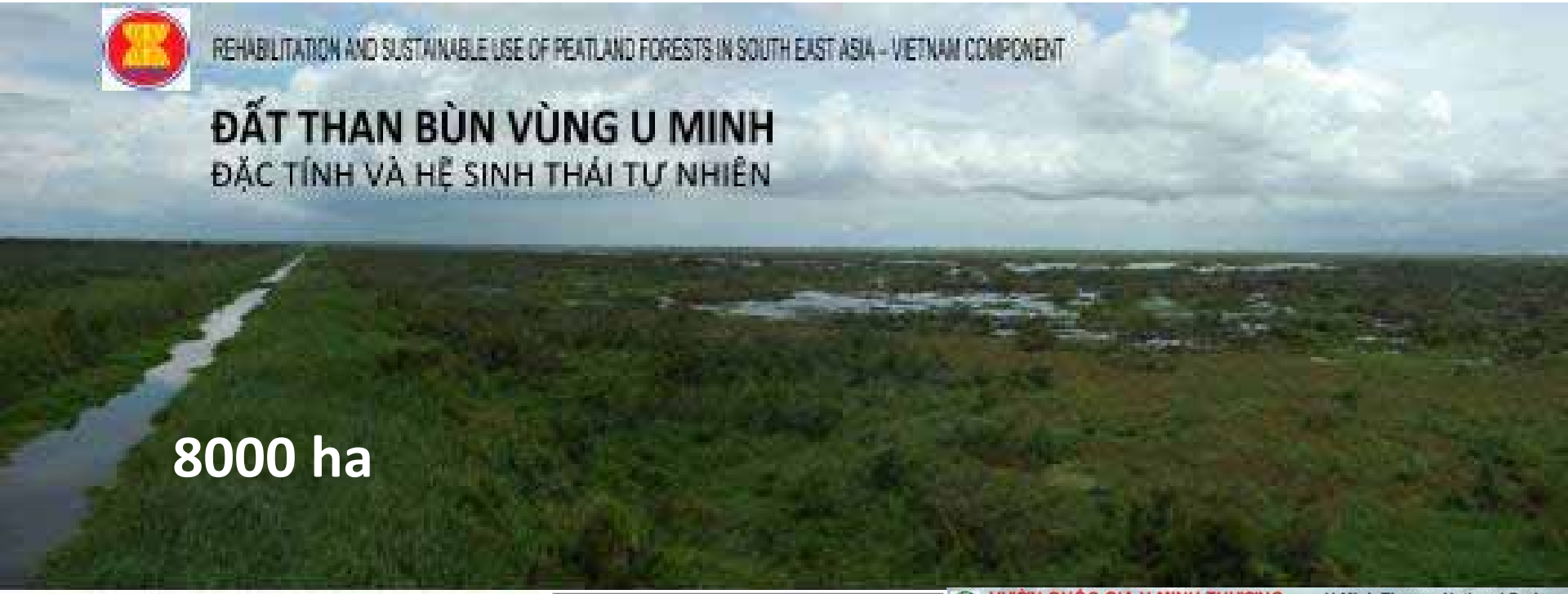
Buffer Zone Management
Green Contract System in Vietnam

Green Contract System supported the community for livelihoods development in 400ha buffer zone of UMTNP (750 USD for each household).

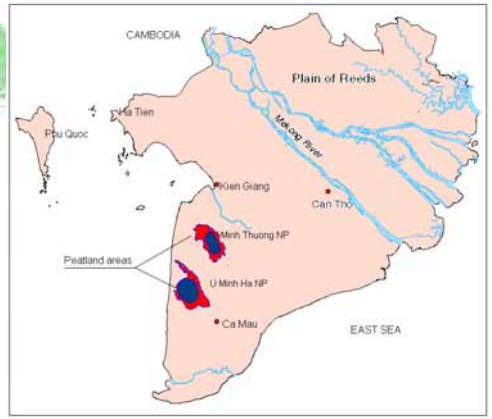
Four models applied: *Melaleuca, Fruit trees, Vegetables, livestock and crops*

Impact on peatland reduced, fires prevented

U Minh Thuong National Park was declared as an ASEAN Heritage Park in the ASEAN Ministerial Meeting on Environment in September 2012 and designated as Ramsar site in 2014



BMP replicated in U Minh Ha National Park.



RSPO MANUAL ON BEST MANAGEMENT PRACTICES (BMPs)

FOR MANAGEMENT AND REHABILITATION OF NATURAL VEGETATION ASSOCIATED WITH OIL PALM CULTIVATION ON PEAT

SUPPORTED BY

IFAD
Enabling poor rural people to overcome poverty

gef
GLOBAL ENVIRONMENT FACILITY

European Union

RSPO
Roundtable on Sustainable Palm Oil

Paludiculture options

- Forest rehabilitation and fire prevention is a major Paludiculture option – but benefits are collective.
- More than 1300 plant species recorded in PSF in SE Asia.
- More than 500 with known socio-economic uses:
  - Timber – eg Ramin, Meranti
  - Fibre – eg Pandanus (Screw Pine)
  - Food – eg Durian, Sago
  - Medicines – eg Kacip fatima
  - Essential oils eg melaleuca
  - Latex – eg jelutong
  - Oils – eg Illipe nut

Sago *Metroxylon sagu*

Sago (2)

Jelutong *Dyera lowii*

Paperbark *Melaleuca spp*

Illipe Nut *Shorea stenoptera*

Other

New opportunities for paludiculture

- Government Policy – PP71/57 Peatland management Regulations Indonesia
  - water to be maintained at no more than 40cm below soil surface in production areas.
- Peatland Restoration Agency, Indonesia
  - 2 million ha of peatland to be rewetted by 2020
- Oil Palm and Pulp and Paper Sector
  - No Peatland No Deforestation, No Exploitation (NDPE)
  - RSPO P&C – Drainability assessment

Challenges

- Investment and Financing
- Land ownership and tenure
- Species selection and improvement
- Propagation
- Production techniques
- Pest and diseases
- Processing
- Market development


Thank You