



Sveriges lantbruksuniversitet
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The role of palm oil plantations in changing land use and for ecosystem services

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Palm oil landscape
Indonesia (AR Taim, Wikimedia commons)



Undisturbed rainforest
Sabah, Malaysia (A Malmer)



Deforested and drained peatland
Central Kalimantan (A Malmer)

Fire generated degraded grassland
Kalimantan (S Lestari, Wikimedia Commons)





Forest conversion to Palm oil plantation

Soil disturbance, fires for clearing and escaping fires

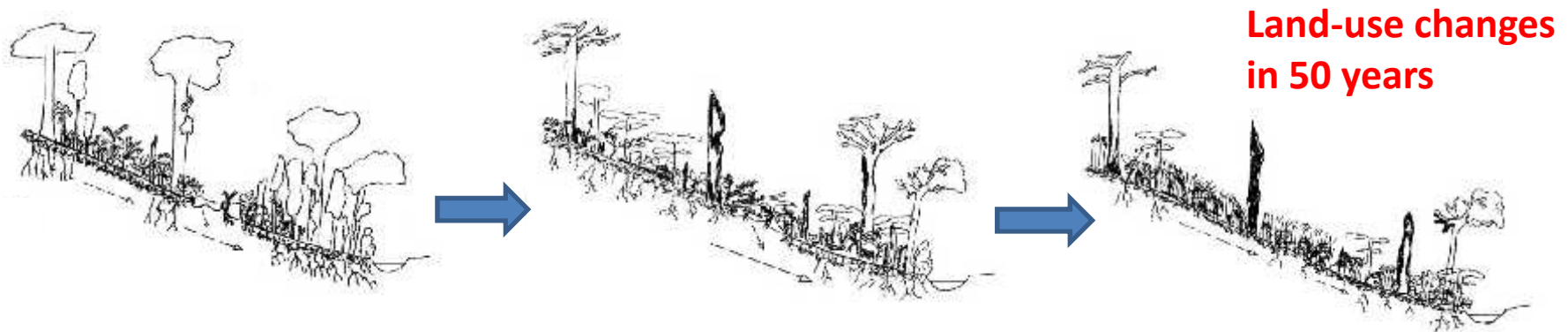
- Reduction in biodiversity
- Carbon emissions
- Reduced soil organic matter
- Surface runoff and potential flooding
- Erosion of soil and nutrients
- Water pollution
- Risks for landslides at extreme rains

(photos by A Malmer)



Long term effects of palm oil plantations

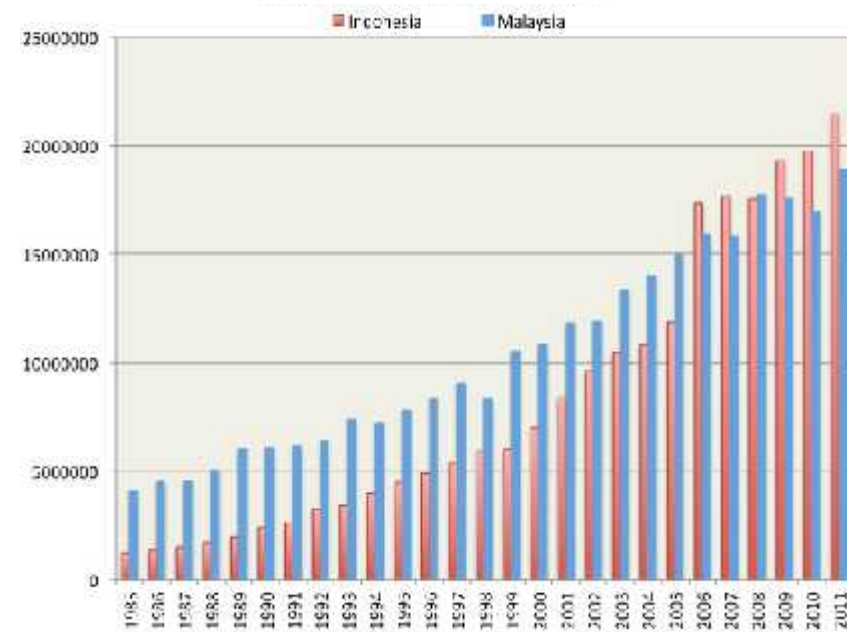
- Maintained higher risk for fires than for more closed forest
- Substantially lower carbon storage than forests (down to 20 %)
- Much lower and different biodiversity in landscape covering plantations



Logging creating open forests with successive fires leading to degraded grasslands (A. Malmer)



Intensifying swidden farming, Laos (A Malmer)



Palm oil production 1985 – 2011 (source: FAO)

Looking ahead and What can the EU do?



Mosaic landscape (A Malmer)

Continued Palm oil expansion?

Must not use fire for clearing and/or have rigid fire control

Must find ways for establishment on degraded lands rather than to use forest land

Basis for certification and consumer pressure?

REDD+ support for land restoration?

More sustainable landscape development

Better small scale *mosaics of different land-use and forest*

Under researched / tested compared to looking at one land-use at the time?

(Biodiversity, soil quality and water aspects)

Forest restoration also much needed in the landscape perspective

There must come incentives for sustainable forest restoration and management

Investment support?

REDD+?

Promote small scale/ local / small holder / private land-use?



Anders Malmer