

Peat lands, food supply and biodiversity in Overijssel and Fryslân

Seminar “Lowland development”

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Drainage of peat lands

- In NL: for reasons of agricultural development
- Start: from the 17th century until now.
More intensive during the 20th century
- Subsidence (drop in surface levels) because of oxidation of peat (together with CO₂-emission)

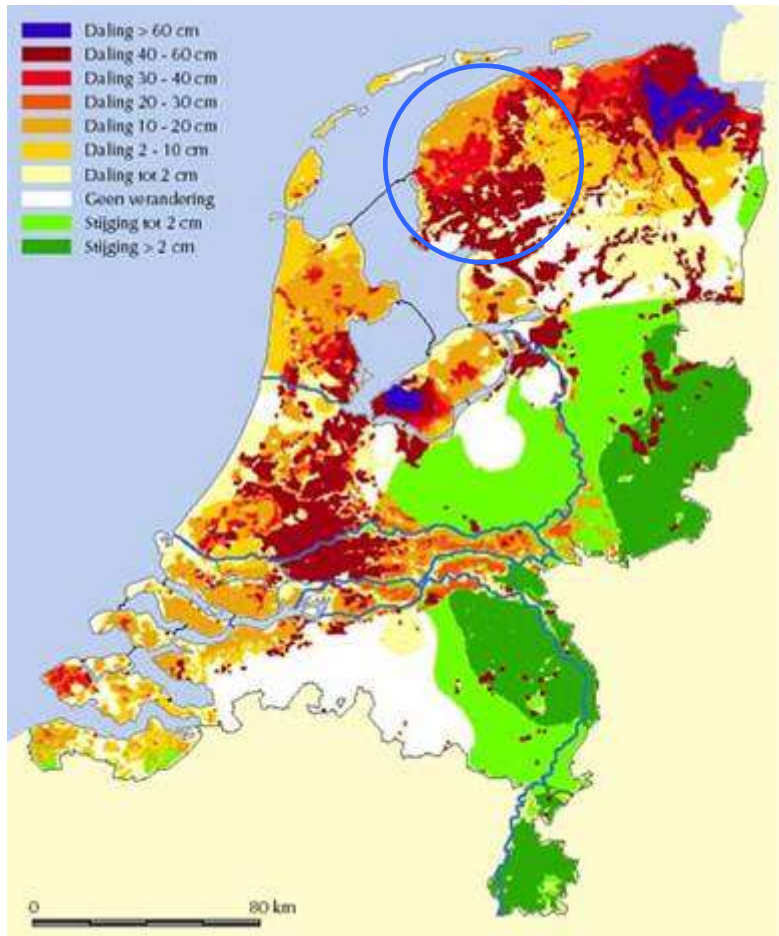
Effects occur

- **Water quantity:**
Drought ↔ higher occurrence of too little water
Heavy rains ↔ higher occurrence of flooding
- **Water Quality:**
Influx of nutrients because of oxidation, introduction of pesticides;
Possibilities for use (e.g. drinking water for humans and cattle) diminishes
- **Landscape:** leads to non-restorable changes
- **Biodiversity:** strongly affected

In short

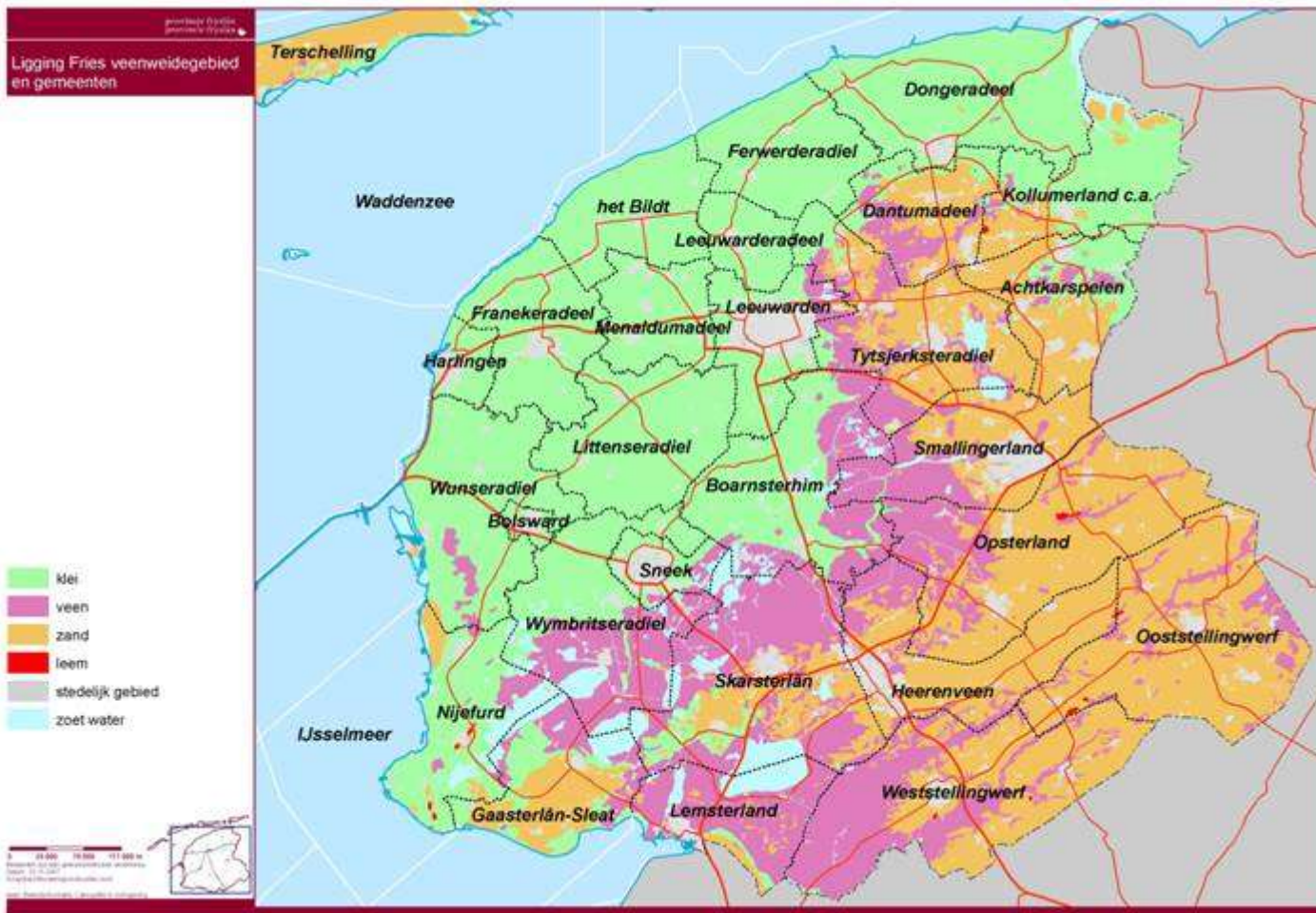
- The current way of draining peat lands is not sustainable in the long term
- An integrated approach is needed
- Solutions are necessary, followed by implementation

Subsidence in Fryslân



- Partly autonomous
- Partly due to drainage of peaty soils
- Expected subsidence max. 60 cm in 2050
- Mid-term strategy: mitigation of subsidence, and of the effects

Where do risks occur? ↔ purple color



Damage to wooden foundation



Damage to houses



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Seminar Lowland development

Possible Solutions?

- Compromise between rising groundwater levels and agricultural use (practical research is performed)
- Mitigation measures (e.g. water management) to limit the effects for biodiversity
- Long term restoration measures for houses

Parallel between the Indonesian and the Dutch situation

- The peat lands are both coastal and near-coastal (swamp) areas
- The occurring problems are similar
- In both cases the solution lies in an integrated approach
- A possible basis for a long term cooperation on this subject