



# Ground water Protection in practice – project AGWAPLAN

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Working with groundwater protection in project AGWAPLAN





# What is AGWAPLAN?

- AGWAPLAN- **AG**riculture and **WATER PLAN**
- AGWAPLAN is a project based on cooperation on finding solutions which in the future will allow room for farming as well as for a cleaner water environment.



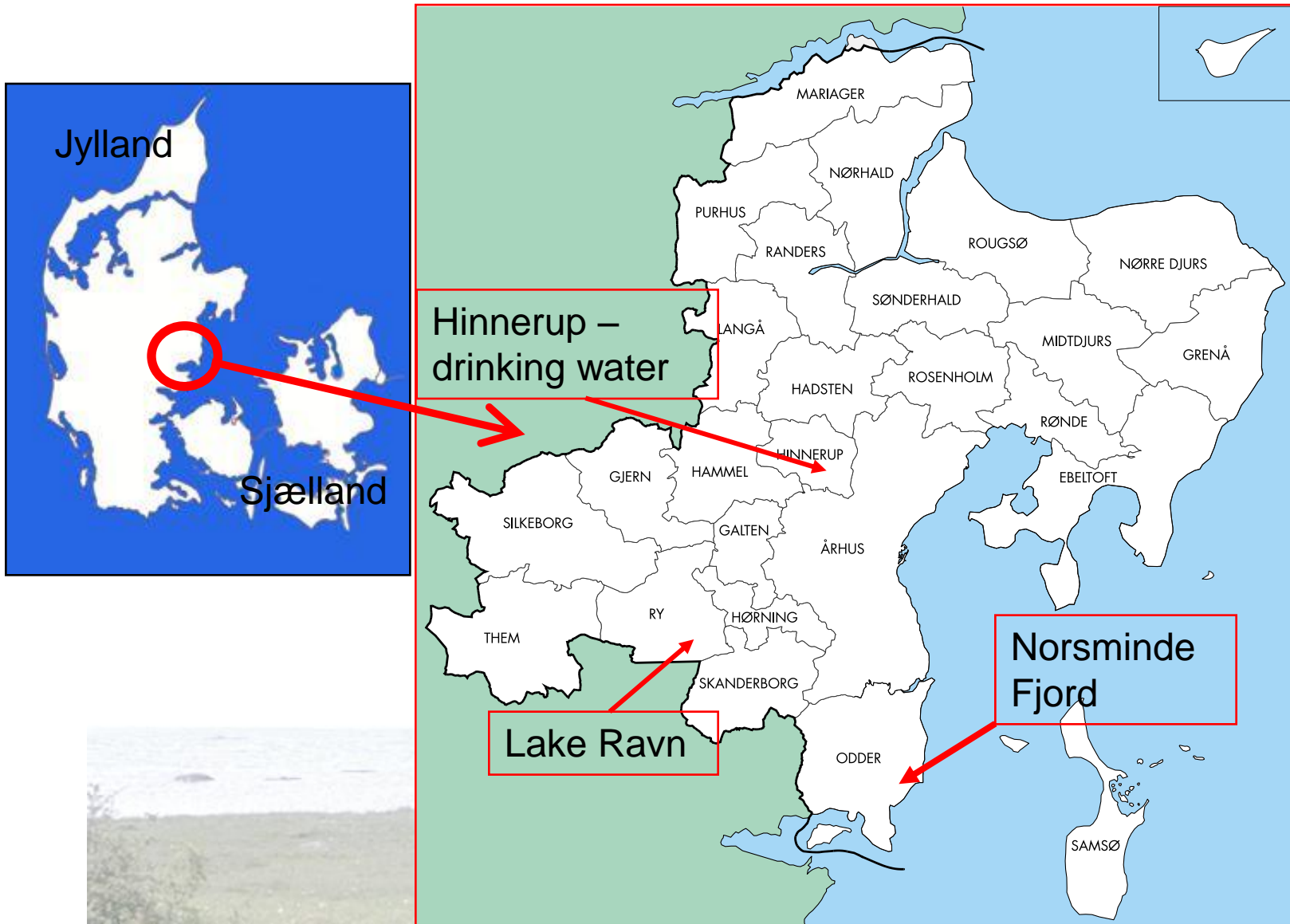


# Who are part of AGWAPLAN?

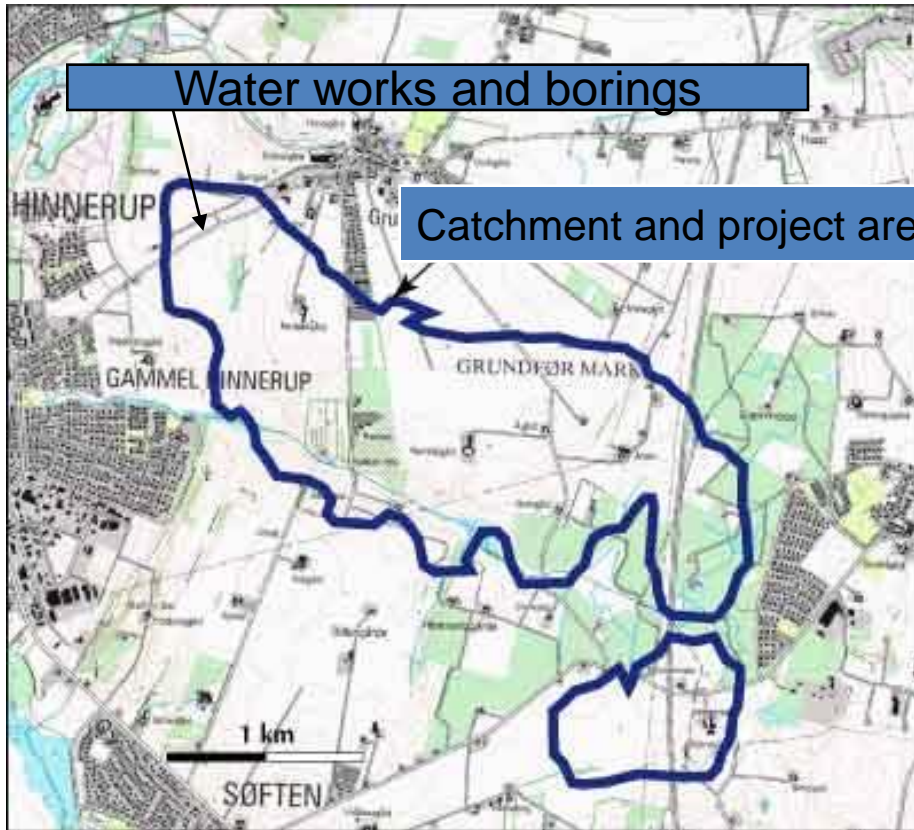
- The project participants are:
  - 22 farmers in 3 project areas
  - 3 farmer's associations
  - The Danish Agricultural Advisory Centre, National Centre
  - 4 municipalities
  - Environmental Centre Aarhus
  - The Faculty of Agricultural Sciences, Aarhus University



# Three Pilot Areas in AGWAPLAN



# Groundwater area Hinnerup



- The catchment covers 363 ha
- 90% of the catchment is nitrate sensitive.
- Close to urban area
- Partly adjacent to forest area
- In parts of the area there are possibilities for receiving subsidies for afforestation.
- 5 project farmers



# Environmental objectives

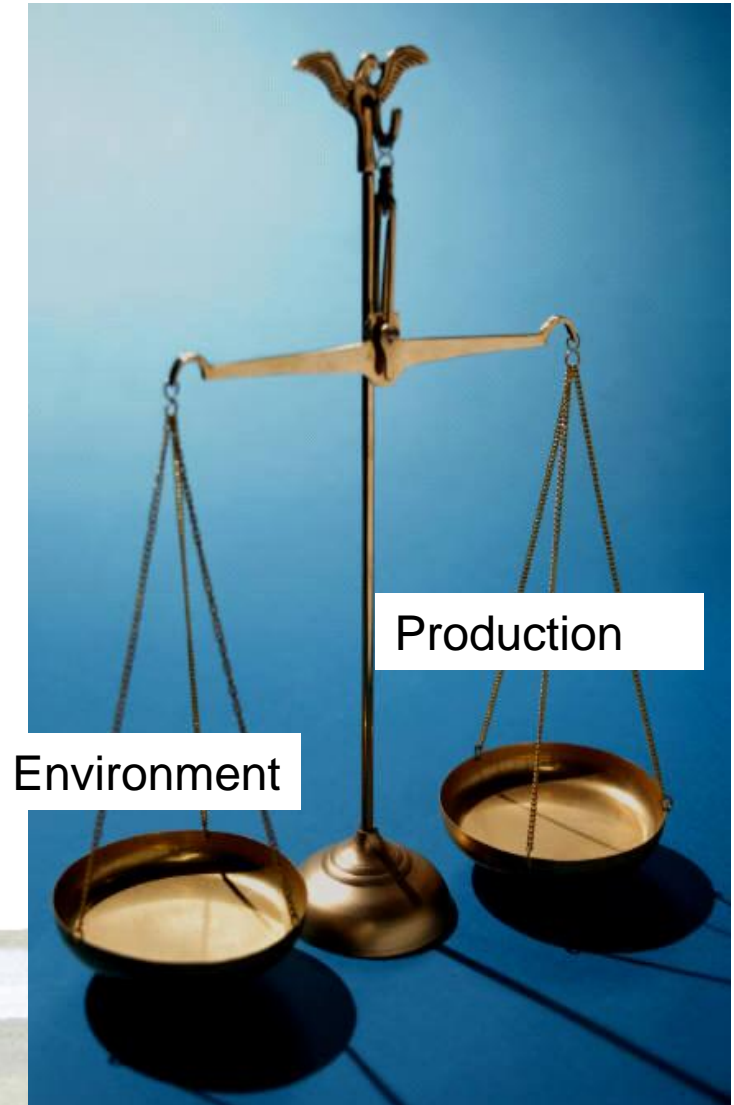


- The environmental objective is a maximum leaching of 45 mg nitrate per litre from the root zone.
- It will be necessary to reduce leaching from the farmed areas with 46 % in order to achieve this objective.



# The Challenge!

- Are there limits to what farmers can do if they are to continue farming?
- We hope to show that coexistence is a possibility



# Cooperation in practice



Meeting in the field between farmers, adviser and authorities.

- Farm level
  - Builds on individual plans for production and development for single farms using data on farm level
  - The tool is a catalogue of measures and a new concept for integrated advising



# Cooperation in practice



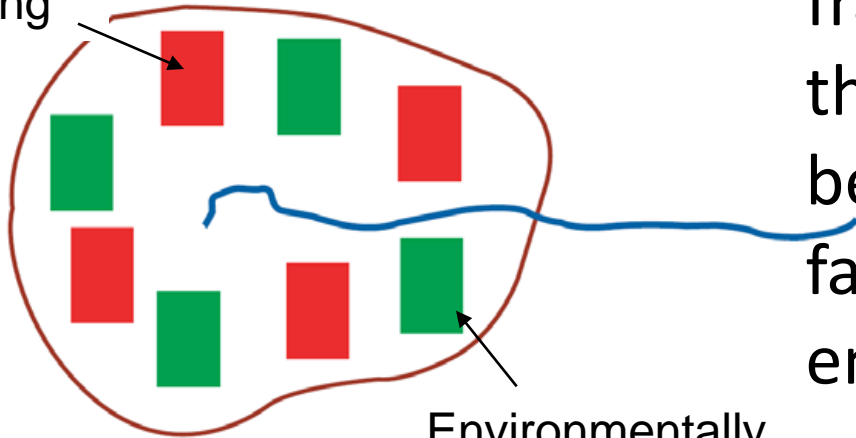
Meeting at one of the farmers place

- Catchment level
  - The work is concentrated on general solutions
  - The work is concentrated where it will have the greatest effect



# The future without cooperation

No farming

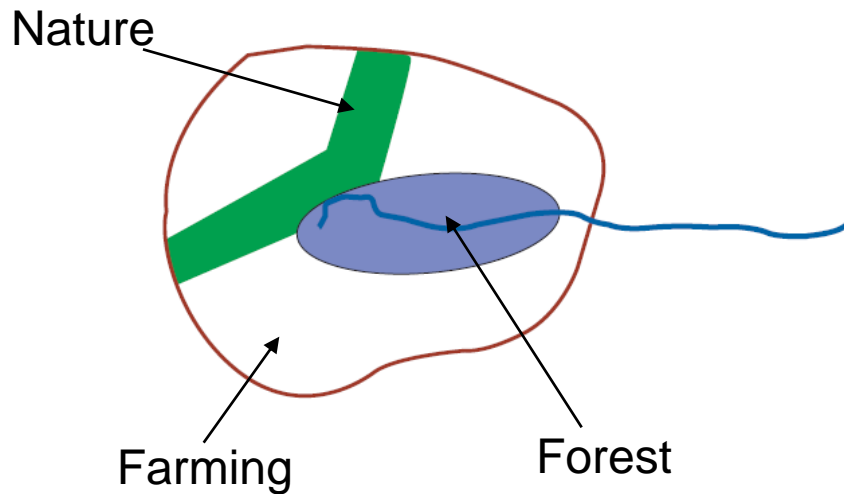


Environmentally friendly farming

- Without cooperation we will only find fragmentary solutions that won't necessarily be optimal for either farming or the environment.



# The future with cooperation



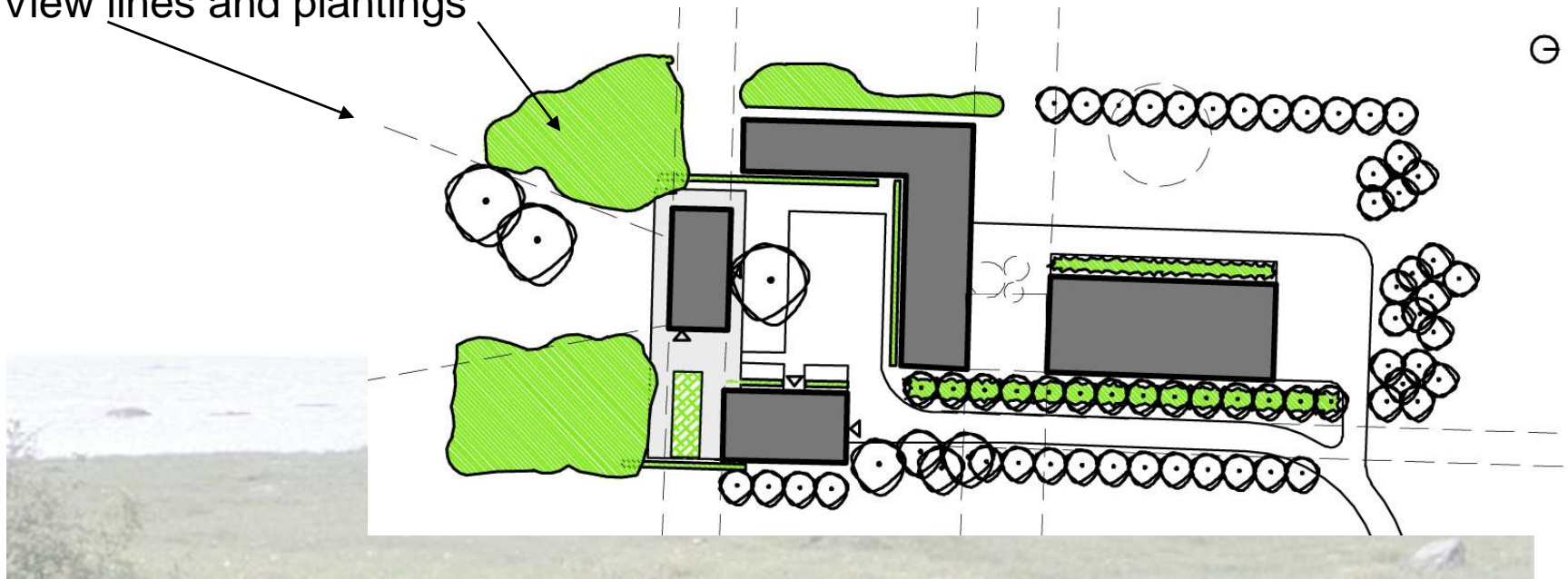
- With cooperation we can achieve better possibilities for a cleaner environment more nature, and better conditions for farming.



# Deliberations on the future use of the land.

- Could the area be attractive to others than farmers?

View lines and plantings





# Barriers to implementing solutions

- The type of farmer
- Size of the farm, financial circumstances and the farmer's plans for the future
- Lack of trust in authorities and environmental objectives
- Lack of knowledge about the connection between your actions and environmental exposure
- Lack of knowledge about possible means and solutions





# Results

- The project is still running
- Temporary results indicate that it is possible to reduce leaching 23 % at farm level by integrated means.
- In the Hinnerup Catchment results must be achieved through efforts on farm level as well as on catchment level in order to reach the environmental objectives.





## Learnings/messages

- Considering agriculture and environment as a whole creates an understanding that solutions must be found in new ways.
- Involving the farmers is essential.
- Finding solutions on catchment level is time consuming, but can be the deciding factor if there is still to be agriculture in development in a clean environment.





Are we ready to pay for the best solutions?

Or can we afford not to pay for the best solutions?





# **AGWAPLAN invites to a European conference on Improved water quality through good agricultural practices**

14 – 15 Januar 2009

In Herning, Denmark

Further information on:

[www.agwaplan.dk](http://www.agwaplan.dk)

