

## Farmers are well under way to become water managers

• By Nina Marie Høi, Communications Intern, Knowledge Centre for Agriculture, Denmark

*Thanks to the Aquarius Project, awareness of the various environmental problems in the North Sea region is increasing.*

Farmers generally seem interested in the win-win situations that emerge as the pilot projects protect both the environment and their crops, and they are well under way to become water managers.

On a recently held workshop in Norway, the partners presented and discussed the mid-way status of each pilot. The pilot projects all focus on different issues, though some are facing similar problems and can learn from each other.

In Denmark and Norway, the main problem is eutrophication, due to nutrients from the fields ending up in the surface waters. Other pilot projects are struggling more with flooding and drought.

### Win-win situations

In Denmark, an important issue is to identify the areas with the highest contribution of nitrogen to the risk areas. A local stakeholder group consisting of farmers, advisors, and authorities are working on finding solutions for water and production. An example is the work on common solution for increased cattle grazing in areas close to surface waters.

The main issue in Norway is to reduce erosion and phosphorous losses, naturally with minimum reductions in productivity. An action plan has been worked out, and 75% of the farmers have agreed to an environmental contract, which puts comprehensive restrictions on farming.

The manager of the Norwegian pilot, Tyra Risnes, says that “a win-win situation has been created because while the phosphorus application has been reduced, locally applied research shows that the crops are not reduced, so farmers are also saving money on using less phosphorus.”



See the video about the Norwegian pilot area – visit [www.aquarius-nsr.eu](http://www.aquarius-nsr.eu)

### Solutions to flooding and drought

Both flooding and drought is a main concern for the farmers in Sweden. Hydrological studies have been completed and, as a result, multi-functional constructed wetlands are seen as a useful tool for water management since they can be used both for irrigation, in times of drought, and as reservoirs, in times of floods.

Flooding is also a main concern in Scotland, where the partners are cooperating with farmers to reduce impacts of flooding. A hydraulic model of the catchment has been developed and is being used to assess flood alleviation benefits.

The pilot is now at the stage of identifying a suitable demonstration site for natural and sustainable flood management. However, the pilot still has to address its main barrier, namely that of effective financing. Options for financing management and maintenance costs are still being considered and depend on what arrangement will be in place between the farmers and the authority responsible for flood protection and management.

In Germany, on the other hand, the main concern is drought. Here, irrigation is necessary and currently the water for this is obtained from deep lying groundwater layers. The catchment area is facing

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water shortages due to irrigation as well as to diffuse pollution of the groundwater supplies.

The pilot is currently working on a project called “rain-harvesting”, which, as the word suggests, is aimed at collecting and using the rain for irrigation purposes. However, the pilot has experienced some problems since the collection of hydrological data has proved more complex than expected.

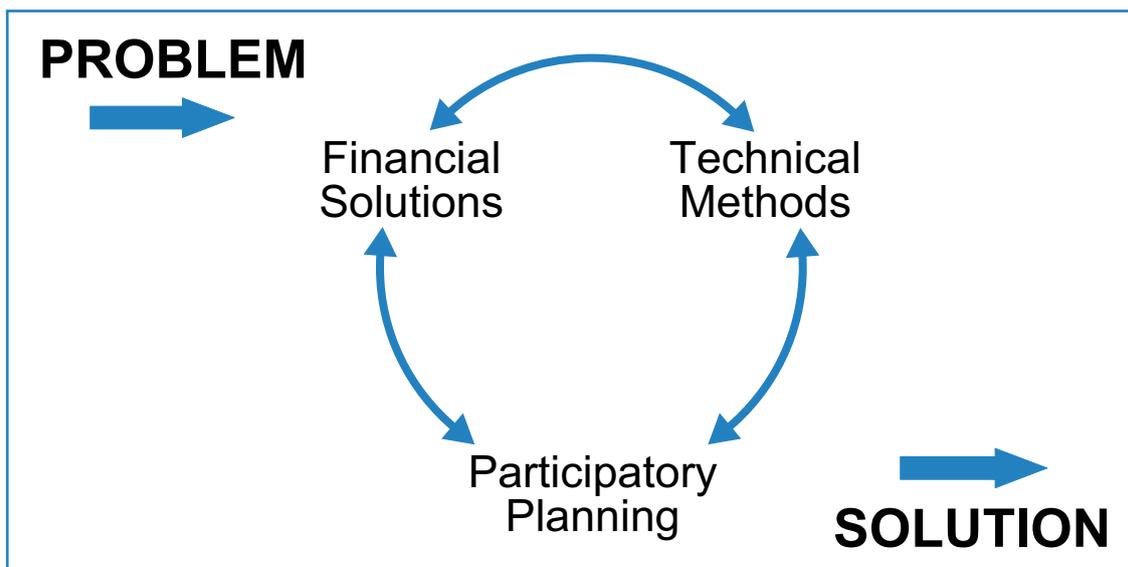
Drought is also the main issue in the Dutch pilot in Drenthe. Strategies are aimed at efficient irrigation and water retention. Here, almost 100 sensors have been installed in the fields to help farmers see when it is the optimal time to irrigate their fields. The area, however, has not had a dry summer in the last two

years, so therefore the production of higher yields due to proper irrigation has been limited.

## The problem-solution wheel

While Aquarius has raised awareness of the various environmental problems and climatic challenges in the North Sea region, the project has also proven that solutions have to take into consideration all aspects of an issue, meaning participatory, technical, and financial aspects.

It is simply not enough to handle for instance a technical issue. If the right participants are not involved and the financial issues are not in place, all efforts will be wasted.



*If a certain problem is to be dealt with properly, the solution must take into consideration all aspects of the issue, meaning participatory, technical, and financial aspects.*