

NATURAL FLOOD MANAGEMENT

WORKING WITH FARMERS



Summary

Climate change causes flooding in many European areas. In the Scottish Aquarius pilot area the focus of activity was to look at working with farmers to implement flood alleviation measures through natural flood management schemes rather than the previous approach of using hard engineering methods to prevent the flooding of houses and industrial areas.

The technical solution was to create an area where flood storage and continued agricultural use could be clearly demonstrated. The solution has shown good results and can serve as inspiration for other EU countries.

Main Benefits

General aspects

- » Efficient use of farm land to help protect areas at risk from flooding.
- » More natural approach to creating a flood storage area. Grassing bunds rather than hard engineering measures such as rock armour.
- » Fits the recommendations of the Floods Directive to use more natural flood management solutions.

Economic aspects

- » The majority of the site can still be used for agricultural grazing.
- » Management of the site will be minimal as land will be grazed and seed used on bunds is low maintenance grass.
- » In some situations storage of water during wet conditions will provide water in times of drought.

Innovative aspects

- » Improved amenity for the area with the inclusion of burnside pathway.
- » Ability to include wetland areas to attract wildlife and enhance biodiversity enabling used by the local schools.

Boosters for Implementation

- » Build good relationships with the landowners and have clear dialogue at all stages.
- » Consultation required with other stakeholders through public meetings and open days to ensure they were informed at all stages of the project.
- » Minimal loss of agricultural land in the construction of the Flood Storage Area.
- » Added benefits of a path link providing better amenity for the local community.

Barriers for Further Implementation

- » Land ownership and tenancy models create legal difficulties when designing long-term measures to deal with flood alleviation.
- » Land managers can be nervous about committing to long-term measures given the unpredictability of markets, funding regimes and policies.
- » Land managers can be nervous about the unpredictability of when the land will be flooded and the potential impact on crops or grazing.

How to Get Over Barriers

- » Different understandings of 'natural' flood management. Time should be taken to clearly define the problem and the solution.
- » Land managers can work with engineers to design measures that allow them to continue to graze or crop fields between floods. Time and resources should be allowed for this co-design process.
- » The trade-off between flood protection and impact on land management requires detailed modeling and analysis. Technical processes need to build in multiple iterations.

Policy Recommendations

- » Current agri-environmental payments do not provide sufficient incentives for long-term flood management nor take a catchment approach. This should be prioritised in future funding scheme design.
- » Land managers perceive a conflict between flood alleviation measures and measures under the Water Framework Directive that prevent clearing vegetation from the burn. Policy makers need to provide clearer guidance.
- » Agricultural advisors need better evidence about NFM options in order to help engage land managers in flood alleviation.

More Information

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