Summary of TEHO Project’s Final Report

The TEHO project (More effective agricultural water protection) was carried out in Southwest Finland (Varsinais-Suomi and Satakunta) from 2008 to the spring of 2011 to meet the challenges of water protection. The selection of the project area was influenced by its location in the catchment area of the Archipelago Sea which is a very important area as regards nutrient run-off. In addition, the project covers areas where there are concentrations of animal husbandry.

The TEHO project was carried out by the Centre for Economic Development, Transport and the Environment for Southwest Finland and the Regional Unions of Agricultural Producers and Forest Owners (MTK) in Varsinais-Suomi and Satakunta, with a funding of EUR 2 million from the Ministry of Agriculture and Forestry and the Ministry of the Environment. The objective of the project was to improve the effectiveness of the current agri-environmental scheme (AES), to test new water protection measures, to assess the impact of bio-energy production on water protection, to introduce approaches and suggestions for a new environmental support system starting in 2014, and to develop water protection in general. The project took a new approach based on long term cooperation between the environmental authorities and the farmers’ union.

The most important partners in TEHO were the farmers in Southwest Finland, who responded positively to the project. In addition, the agricultural and environmental administration, the Central Union of Agricultural Producers and Forest Owners, researchers, advisors, companies and other agricultural water protection projects all cooperated across a range of issues. This variety of perspectives increased the knowledge and understanding of agricultural water protection among the various parties.

Environmental handbooks were drawn up for each of the 122 farms participating in the project. The handbook described the current status of the farm’s water protection, highlighted development needs and suggested ways of maintaining waters in good condition. In addition, nutrient balances were calculated for farms by parcels and for the
whole farm and physical and biological properties of the soil were assessed. In farm experiments, some new and less used water protection measures were tested. The project also tested the continuous monitoring of water quality.

Based on the experiences gained in the project, cooperation between farmers and advisors in planning environmental protection by utilising an environmental handbook produces good results. It enables farm specific development targets to be identified and the order of priority to be established while also taking economic aspects into account. The warm reception and the discussions held during farm visits showed that farmers are interested in promoting agricultural water protection and assessing the environmental impact of their activities. However, a barrier to development is the frequent lack of knowledge about suitable methods and their effectiveness, as well as lack of knowledge about financing opportunities, or simply lack of time.

As well as its impact on the TEHO farms, the project has also had a wider impact among the farming community. The project organised training events and project staff also gave presentations at events organised by other bodies. A series of reports on practical issues regarding water protection were also produced. In addition, project had a public website (www.ymparisto.fi/teho). Both TEHO farms and others farms in the project area were given advice especially on special measures of the agri-environmental scheme, like establishment of buffer zones and construction of wetlands.

During the project it became quite clear that the efficient use of nutrients has to be further improved to prevent nutrient leaching. Nutrient loading can be prevented by taking care of the growing conditions of the soil and through diversified crop rotation. Catch crops can take up nitrogen and other nutrients that remain in the ground after the harvest as well as ensure that there is continual plant cover on the ground until the end of the growing season. Nutrient balances help plan more efficient use of nutrients, and the balances are a good aid in providing advice. However, it would not be appropriate to make them a compulsory part of the agri-environmental measures because the calculations include many uncertainties. Nutrient run-off can also be prevented by promoting full utilisation of manure nutrients.

Finding completely new water protection methods was challenging. Experiments on the farms included manure separation, different methods of sludge spreading, construction of exercise yards for animals while taking water protection into account, and the use of gypsum for phosphorus capture. On the other hand, during the project it was noticed that
old methods of water protection are not always fully utilised in agricultural water protection. Little used, though effective ways of reducing the nutrient load include catch crops, constructed wetlands, buffer zones and split application of nitrogen fertilizers.

The starting point for the TEHO project was to focus on agricultural water protection on individual farms. Water protection methods still also have to be targeted by catchment areas as well as by production and even by fields so that they are as effective as possible. Special attention needs to be paid to erosion control where fields are sloping, the soil type is sensitive to erosion, field phosphorus levels are high and watercourses are close. Erosion prevention through plant cover in winter reduced tilling and buffer zones must be better focussed than at present. Actions to be taken also depend on whether the aim is to prevent nitrogen or phosphorus loading. The TEHO Project showed that farm specific maps are a good aid to targeting and giving individual farms advice. It is important to ensure that existing good practices remain and that financial support is not only directed towards areas that have been poorly managed. This means, for example, developing a payment system that supports the production of environmental benefits. Supporting good practice will ensure that the achievements of environmental protection in agriculture will be maintained.

A prerequisite for holistic environmental planning at the individual farm level is the rapid development of information systems. Agricultural and environmental administrations must devote resources to improving the availability of information systems, and the information itself, so it is useful to farmers and advisors.

Farmers are still not aware of all the possibilities of the agri-environmental support system. More investment in the quality of advice is needed. Farm specific advice could be improved by utilising the possibilities offered by existing advisory resources as well as the farm advisory system (FAS).

The agri-environmental schemes have been continuously developed, but there is still need for further improvement. Farmers particularly want it to be simpler and less bureaucratic. Special measures of AES are the most problematic. Also, farms do not select the maximum amount of additional measures, because they do not want to make long term commitments when their operating and economical environment is constantly changing.

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