Integrating water issues in Farm advisory services

A Handbook of ideas for administrations

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1 Background and Introduction

1.1 Why such a handbook?

During the recent conferences on linking the CAP and the WFD, a clear need for information sharing on advisory services (farm advisory or new water management advisory) was highlighted. Such information sharing is considered a prerequisite to get a better understanding of the impacts of these services on delivering environmental outcomes, such as improved water status, and the costs of the advisory service.

In the framework of the 2003 CAP reform, the cross compliance regime was introduced linking the respect of existing directives and regulations in the field of environment, food safety, animal health and welfare (Statutory Management Requirements - SMR) and the obligation to maintain land in good agricultural and environmental condition (GAEC) to EU direct payments. Farmers have to comply with these so-called cross compliance standards in order to receive full EU support. In addition, Member States were obliged to put in place a farm advisory system to help farmers on how to comply with the requirements under the cross compliance regime. This advisory service on land and farm management was termed Farm Advisory System (FAS) and had to be implemented by January 1st 2007. The advisory activities must cover at least, but are not limited to, the requirements under cross compliance (SMRs and GAEC).

The issue of water is not always addressed to the same extent in farm advisory systems and several Member States (MS) have asked for a deeper information exchange on how to best integrate additional water-related issues into their current FAS.

1.2 What does “Farm Advisory System” and “farm advice” mean?

The “Farm Advisory system” (FAS) is a comprehensive system made up of different advisory bodies coordinated by a central body or authority. This system guarantees that each farmer in all Member States is able to ask and receive advice on compulsory standards, at the least on all cross compliance requirements. Such a system covers the overall organisation and the various public and/or private

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1 Obligations related to cross compliance should help raise the awareness of farmers, in particular through the provision of information on their obligations to farmers and the possibility of having CAP payments reduced in case of infringement. The cross compliance system contributes to the respect of standards and obligations under specific legislation as listed in Annex II of R.73/2009, including the Nitrates Directive, Groundwater Directive, Directive on plant protection products etc. The obligations under cross compliance (SMRs) apply as in force and, in case of Directives, as implemented by the Member States. Changes in this specific legislation will be reflected in the cross compliance obligations.

2 GAEC requirements are defined by the Member States on the basis of a common framework of standards, taking into account the specific characteristics of the areas concerned. The standards for GAEC are related to soil protection, maintenance of soil organic matter and structure, avoiding the deterioration of habitats, and water protection and management.
operators that deliver farm advisory services to the farmer in a Member State (Article 12 of Council Regulation (EC) No 73/2009).

A "farm advisory service" is the service a farmer receives from an advisor, i.e. an oral or written advice that analyses a farmer's practical problems on his farm and gives guidance in order to resolve practical problems. Advice is the provision of a technical skilled opinion on a specific subject to assist the farmer in his decision making.

1.3 What to be found in the handbook?

The handbook focuses on environmental considerations in water management and not water management in general. “Water-friendly farming” practices are the key focus. The handbook does not focus on specific technical measures or activities to be taken by a farmer to protect water (e.g. buffer strip, fertilization technology, etc.); rather, the Catalogue of measures to address diffuse pollution from agriculture developed within the Common Implementation Strategy for the Water Framework Directive should be used a reference. The focus is clearly on the organizational and institutional setup behind these technical measures. In particular, chapter 2 summarises the main water management problems resulting from agriculture. Chapter 3 and 4 provide the main definition of farm advice and which legal aspects are linked to the farm advisory system (FAS) under the Common Agricultural Policy regime. In chapter 5 a brief overview of the main organisation structures of FAS in different EU Member States is provided. Chapter 6 provides different approaches on how to geographically target advice and chapter 7 gives an overview of the main information tools and advice methodologies. Chapter 8 focuses on ways to integrate different FAS approaches to increase efficiency of advice and reduce costs and chapter 9 discusses the issue of farmers' motivation to participate in advisory services. Chapter 10 discusses the issue of timing of advice. Based on a problem related approach, chapter 11 provides different examples on how advice addresses different water problems. Chapter 12 focuses on the issue of cost and ways of financing farm advice.

The Handbook was developed in collaboration with the Member States and the European Commission. The examples in all chapters were gathered by the authors or submitted by the Member States, who were actively involved in the development of the handbook. The handbook aims to provide a starting point for sharing ideas, experiences and approaches and provided links to other sources of information.

When reading the Handbook, it is important to keep in mind that since Member States are still in the process of revamping their Farm Advisory Systems following the Health Check, some elements of their systems presented in this Handbook may still need to be revised to come in line with Regulation 73/2009.

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3 The Catalogue will be made available on the Water and Agriculture website at: http://circa.europa.eu/Public/irc/env/wfd/library?l=/framework_directive/thematic_documents/wfd_agriculture/caom_sept_08_zip_/EN_2.0&a=i
1.4 Who should read this handbook?

The handbook focuses on governmental, administrative bodies that govern advisory services. The Handbook is NOT meant for advisors or farmers. It aims to support the above mentioned bodies in designing and developing farm advice further.

2 Water management problems resulting from agriculture

The main negative impacts resulting from agricultural activities on water bodies are:

- Nutrient enrichment of surface and groundwater (leaching and run-off),
- Pesticides in ground- and surface water,
- Alterations of hydrologic regimes (e.g. irrigation, drainage),
- Hydro-morphological modification, and
- Sediment transport into surface water due to soil erosion.

Pollution from different agricultural sources represents one of the key impacts on water bodies. An analysis of significant water management issues (SWMIs), as required under the EU Water Framework Directive, confirms this outlook. In 66% of river basin districts, agriculture is linked to nutrient enrichment, and in nearly 50% of RBDs agriculture is linked to contamination from priority substances. However, the impacts of water pollutants on the environment clearly depend on the quantity of pollutants discharged and on their physio-chemical characteristics. A distinction can be made between (i) point sources of pollution such as industrial discharges or spillage of the contents of a farm slurry storage tank into a river, and (ii) diffuse (non-point) sources including background contamination losses (natural land), losses from agriculture and from scattered dwelling and atmospheric deposition on water bodies. Pollution from point sources is often easier to treat, while polluting emissions from diffuse sources are difficult to measure and to control.

Agricultural activities such as irrigation, drainage and land reclamation can disturb the natural water balance. In some Member States, irrigation has led to unsustainable use of water. The environmental impact of increasing water allocation rates to the agriculture sector results in a higher demand for water that can lead to declining groundwater levels or the need to build more and larger water reservoirs. In some instances major water diversion structures are necessary to supply water to irrigation schemes. The diversion or retention of water for irrigation can have serious downstream effects on the environment, especially the drying up of wetland areas. Furthermore, inappropriate irrigation can increase salinisation of agricultural land in some EU regions. Problems arising from irrigation mainly occur in southern Member States, where the dependency on irrigation water for agriculture is greatest, and are often linked to specific crops, such as maize, fruit, and vegetables. Nevertheless, irrigation in agriculture also has some positive effects on the environment. Reservoirs created for irrigation can provide fresh water for birds and other fauna; terraces for growing crops can help slow-down run-off and reduce erosion; water-management for agricultural purposes can replenish the water-table and stabilise river levels. Finally, irrigation generally increases competition with other sectors for water resources, which leads to diverse effects. On the one hand, there is a risk that the water resources are overused, but on the other hand water becomes an important (and potentially expensive) resource resulting in an improved understanding of the need to protect it.
Agricultural drainage uses surface ditches or underground pipes to remove standing or excess water from naturally poorly drained areas. Thus, agricultural drainage systems generally increase crop yields by providing a better environment for plants to grow, especially in wet seasons or after heavy rains. Drainage can have a variety of impacts on hydrology and water quality, depending, among others, on the techniques used and the type of soil. The drained water can be carried to adjacent streams or rivers. Furthermore, the destruction of wetlands due to drainage can result in the loss of important water retention areas. Drainage can also have direct impacts on biodiversity, as it can cause floodplain disruptions and break the connection between water bodies, thus endangering the survival of, among others, certain fish species. Because of the removal of water from drained areas, runoff and high-flow peaks increase as well as the risk of downstream floods. As a result, the groundwater table and renewal rate decreases in drained areas/catchments (EEA, 1999). However, the actual impact of this phenomenon on water and solute transport has not yet been fully assessed or, especially, quantified. As regards water quality, subsurface drainage can reduce the loss of phosphorus and organic nitrogen but increase the loss of nitrates and other soluble constituents. Surface drainage, however, will usually increase phosphorus loss but reduce nitrate runoff.

In the past, land drainage, intensification of farming practices and inappropriate grazing regimes have contributed to the loss of wetlands and floodplains, resulting in hydro-morphological modification of surface waters. Such modifications aggravated major floods, such as the Rhine flood in January/February 1995, the Odra flood in summer 1997, floods in southern Germany in spring 1999 and on the Elbe and its tributary rivers in August 2002, and the floods in the UK summer 2007. These floods also demonstrate that technical solutions alone, such as dykes, have a limited effect if they are not completed by alternative strategies such as "living with rivers" or "giving space to rivers". Such strategies have been applied in several European Member States. In the future measures must recognise the role of agriculture in sustainable flood management, especially in terms of "non-structural measures" (Dworak and Hansen, 2003).

Soil erosion by water has implications for the quality of soils and their ability to perform important soil functions, in particular the ability to sustain agricultural and forestry production (European Commission, DG Environment, 2004). In addition, soil erosion and the delivery of contaminants to water (and air) influence the quality of surface waters, ground waters (and air), and, in turn, freshwater ecosystems and human health. In this respect, soil erosion on land and the erosion of river banks have important implications for the ability of Member States to implement and comply with the Water Framework Directive.

### 3 How does “farm advice” work?

Agricultural extension or farm advice was once known as the application of scientific research and new knowledge to agricultural practices through farmer education. Thereby the provision of new information (e.g. dissemination of booklets or websites) plays an important role in farm advice. However, the classic approach of "transfer of technology by informing farmers", often applied in the past, has shown its limitations when addressing complex problems. In particular, the integration of environmental issues into the farmer’s ambition and necessity to make profit needs a more participatory approach. The old linear model of technology transfer (from scientists via advisors to the farmers) is now outdated and should be replaced by an interactive model of networking systems,
since knowledge is also generated by farmers and by private firms as well as by basic and applied researchers. Therefore, a full farm advice system needs to encompass a wider range of communication and learning activities organised for farmers by professionals from different disciplines including agriculture, agricultural marketing, health, business studies, water management as well as to have feedback from advisors and farms to researchers and authorities.

Several different typologies of information and advice can be distinguished relating to a broad range of actions. These typologies range from the most general reporting of facts and research results (information) to guidance tailored to the needs of an individual farmer (advice)(see Povellato and Scorzelli, 2006).

Even if the positive impacts of advice are not always quantified there is no doubt that the benefits cover a wide range of issues such as:

- Better compliance with new legal requirements (e.g. introduction of new GAECs),
- Environmental benefits (e.g. improvements of the biodiversity, water quality),
- Cost savings for the farmer (reduced costs for fertilisation), and
- Investments into farming activities.

The data below shows the positive impact farm advice has had on the nutrient loads in surface water since the mid 1990s.

*Figure 1 Positive impacts of farm advice on nitrate in water (France)*
Table 1: Positive impacts from farm advice on nutrient reduction in the UK

<table>
<thead>
<tr>
<th>Location</th>
<th>Problem and farm advice:</th>
<th>Improvement</th>
</tr>
</thead>
</table>
| Cornwall          | **Problem:** High sediment levels in rivers were having an effect on the salmon population, eutrophication of rivers and an increase in flooding.  
                      **Farm advice:** Approximately 870 farmers and riparian owners have been involved in the project. Cold calling proved to be the most useful method of making initial contact and communicating with farmers. The project has demonstrated that a free, voluntary and confidential service is key to engaging with farmers. The personal touch and an assigned advisor also helped avoid confusion and frustration for farmers. | **Benefits to Farmers:** Average savings have been calculated at £1369 per farm in efficiency savings, soil retention, and improved nutrient management.  
                      **Benefits to the Environment:** There is potential for improved water quality in 15 river catchments; £9698 savings in soil retention per annum, through improved soil structure, 169 km of riverbank fencing protecting watercourses and providing sheltered corridors. |
| The River Wyre Catchment | **Problem:** High levels of phosphorous in parts of the catchment.  
                      **Farm advice:** CSFOs offered dairy farmers in the catchment free soil sampling and subsequent fertiliser recommendations. Information distributed by catchment newsletter. Farmers more aware of nutrient content of slurry and the financial value at current fertiliser prices. | The buying group involved in the study (and supplying inputs to 9,000 dairy cows in the Wyre, Lune and Ribble catchments) reduced phosphorus level in the total mixture mineral supplement from 12% to 8%. |
4 What relevant legal aspects to consider

Council Regulation (EC) No 73/2009 lays out common rules for direct support schemes under the EU Common Agricultural Policy (CAP). Chapter 1, articles 4-6, lists the statutory management requirements (SMRs) established by Community legislation (Annex II) in the areas of public, animal and plant health, environment and animal welfare, which farmers must respect under cross compliance to receive full CAP payments. Furthermore, under cross compliance Member States must define, at national or regional level, minimum requirements for good agricultural and environmental conditions (GAEC) related to soil erosion, maintenance of soil organic matter and structure, avoidance of the deterioration of habitats and water management (Annex III). In addition, Council Regulation (EC) No 1698/2005 on support for rural development by the EAFRD provides that certain rural development payments under axis 2 are also subject to cross-compliance (article 51). Cross compliance acts as a control and sanctioning mechanism in that failure of a farmer to comply with SMRs and GAEC results in a reduction of direct payments and certain rural development and wine payments. Cross compliance does not substitute for the penalties under specific legislation cited in this section but makes a link between the requirements and the payments.

In this context, Chapter 3, articles 12-13 of the Regulation (EC) No 73/2009 requires all EU Member States to operate a Farm Advisory System to support farmers in understanding cross compliance rules and help them meet standards. Furthermore, Member States may determine, in accordance with objective criteria, the priority categories of farms that have access to the FAS. At a minimum, the Farm Advisory System must advise farmers about compliance with SMRs and GAEC; however, participation in FAS is voluntary. Below is a summary of the relevant Statutory Mandatory Requirements related to water that have to be considered in Farm Advisory Systems:

<table>
<thead>
<tr>
<th>Council Directive</th>
<th>Article(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>79/409/EEC of 2 April 1979 on the conservation of wild birds</td>
<td>Article 3(1), Article 3(2)(b), Article 4(1), (2) and (4) and Article 5(a), (b) and (d)</td>
<td>This Directive covers the protection, management and control of wild birds and lays down rules for their exploitation and the management of special conservation areas (SCAs), which includes wetlands of importance for migrating birds.</td>
</tr>
<tr>
<td>80/68/EEC of 17 December 1979 on the protection of groundwater</td>
<td>Articles 4, 5</td>
<td>The aim is to protect groundwater by controlling the discharge or disposal of potentially harmful and polluting materials. Requirements are related to the handling, storing and disposal of certain substances, including sheep dip, pesticides, ammonia or biocides.</td>
</tr>
<tr>
<td>86/278/EEC of 12 June 1986 concerning sewage sludge use in agriculture</td>
<td>Article 3</td>
<td>The aim of this requirement is to reduce the risks to humans, animals and plant health from using sewage sludge. Restrictions for farmers include sampling sewage sludge before use, application rates and stipulations related to where and at which times sewage sludge is allowed to be spread.</td>
</tr>
<tr>
<td>91/676/EEC of 12</td>
<td>Articles 4,5</td>
<td></td>
</tr>
</tbody>
</table>

* Member States were required to set up a FAS by 1 January 2007 at the latest (Council Regulation No 1782/2003).
December 1991 on the protection of water from nitrates coming from agriculture

This Directive aims to reduce water pollution due to nitrates from agricultural sources and to prevent further pollution. Obligations for farmers are related to the amount of nitrogen applied on a farmed area over the whole year, storage capacities, application techniques (i.e. not spraying in or near water courses), bans on application during certain times of the year, keeping records etc.


Articles 6, 13(1)(a)

The Habitats Directive seeks to protect species of flora and fauna and designates special areas of conservation (SACs), including lakes, coastal waters and surface waters. Farmers must adhere to rules regarding ‘European protected species’ and SACs.

In addition to SMRs related to the environment, a number of other Directives and regulations address public health, plant health, and animal health and welfare — see Annex II of Council Regulation 73/2009 for a complete list. These Directives and regulations lay down rules regarding the correct use of authorised plant protection products, the identification and registration of animals, use of hormonal substances on farm animals, food and feed regulations and the control of animal diseases. Stipulations on animal welfare include housing standards, including space, cleanliness and light requirements. Directive 2009/128/EC on the sustainable use of pesticides, complementing the Regulation concerning the placing of plant protection products (PPPs) on the market\(^5\), sets rules regarding the application of EU approved PPPs and includes the obligation to set up National Action Plans with appropriate measures to protect the aquatic environment and drinking water supplies from the impact of pesticides.

**Good Agricultural and Environmental Conditions (GAEC)**

The European Community has developed a common framework to guide Member States in setting up national GAEC standards:

**Table 3: Good Agricultural and Environmental Conditions (GAEC) as defined in Art. 6 and Annex III of R.73/2009**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Compulsory standards</th>
<th>Optional standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Soil Erosion:</strong> Protect soil through appropriate measures</td>
<td>Minimum soil cover</td>
<td>Retain terraces</td>
</tr>
<tr>
<td></td>
<td>Minimum land management reflecting site specific conditions</td>
<td></td>
</tr>
<tr>
<td><strong>Soil Organic Matter:</strong> Maintain soil organic matter levels through appropriate practices</td>
<td>Arable stubble management</td>
<td>Standard for crop rotations</td>
</tr>
<tr>
<td><strong>Soil Structure:</strong> Maintain soil structure through appropriate measures</td>
<td>Appropriate machinery use</td>
<td></td>
</tr>
</tbody>
</table>

\(^5\) Regulation (EC) No 1107/2009

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12
<table>
<thead>
<tr>
<th>Minimum level of maintenance: Ensure a minimum level of maintenance and avoid the deterioration of habitats</th>
<th>Retention of landscape features including, where appropriate, hedges, ponds, ditches, trees in line, in group or isolated and field margins</th>
<th>Minimum livestock stocking rates and/or appropriate regimes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avoiding the encroachment of unwanted vegetation on agricultural land</td>
<td>Establishment and/or retention of habitats</td>
</tr>
<tr>
<td></td>
<td>Protection of permanent pasture</td>
<td>Prohibition of the grubbing up of olive tree</td>
</tr>
<tr>
<td>Protection and Management of Water: Protect Water Against Pollution and Run-off, and Manage the Use of Water</td>
<td>Establishment of buffer strips along water courses&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Maintenance of olive groves and vines in good vegetative condition</td>
</tr>
<tr>
<td></td>
<td>Where use of water for irrigation is subject to authorisation, compliance with authorisation procedures</td>
<td></td>
</tr>
</tbody>
</table>

The new standards should apply at the latest from 2010 and, in case of the standard on establishment of buffer strips along water courses, by 1<sup>st</sup> January 2012. As Member States themselves have to define GAEC standards on the basis of this framework<sup>7</sup>, the defined standards may vary among MS due to adaptation to the local, regional and national conditions of soil, climate, land use, farming practices and farm structures.

**Additional legal aspects**

Beyond the legal requirements set out under Council Regulation 73/2009, additional Directives and Regulations are related to water issues and agriculture production and may be covered by the Farm Advisory Systems even if they are not covered under SMRs.

**Water Related Directives and Strategies**

The Water Framework Directive and the Marine Strategy Directive also influence farming activities. These directives are not fully part of cross-compliance but specific legislation remains applicable: sanctions under national rules implementing the two Directives apply.

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<sup>6</sup> Note: The GAEC buffer strips must respect, both within and outside vulnerable zones designated pursuant to Article 3(2) of Directive 91/676/EEC, at least the requirements relating to the conditions for land application of fertilisers near water courses, referred to in point A.4 of Annex II to Directive 91/676/EEC to be applied in accordance with the action programmes of Member States established under Article 5(4) of Directive 91/676/EEC.

<sup>7</sup> GAEC standards established by MSs before 1 January 2009 remain obligatory. MSs should not define standards not foreseen in the common framework of Annex III.
The Water Framework Directive has set stringent goals to achieve good water status of all community waters (i.e. surface freshwater and ground water bodies - such as lakes, streams, rivers, estuaries, and coastal waters) by 2015. Further, the Marine Strategy Directive aims to achieve good environmental status of the EU’s marine waters by 2021 and to protect the resource base upon which marine-related economic and social activities depend. To achieve these ambitious goals, both Directives require Member States to draw up a programme of measures (PoMs) for each river basin or coastal water in its territories that includes inter alia measures targeted at the agriculture sector. As previously highlighted, agriculture production tends to put significant pressures on community waters. A first screening of the PoMs included in the WFD River Basin Management Plans indicates strong involvement is needed from the agriculture sector. There is a clear focus in the PoMs on addressing diffuse pollution from agricultural sources. The greatest number of measures listed in the PoMs foresees taking action to reduce diffuse pollution from fertilizers, followed by measures to reduce pollution from plant protection products. Supplementary measures to be taken in the various river basins cover a wide range of actions, such as input reduction, organic farming, multi-objective measures (e.g. buffer strips), soil erosion and water saving measures.

Box 1: The EU Baltic Sea Strategy

The Baltic Sea Region is a highly heterogeneous area in economic, environmental and cultural terms and covers 9 European countries, of which 8 are part of the EU. The strategy, which was endorsed in October 2009, seeks to provide both a co-ordinated, inclusive framework in response to the key challenges facing the Baltic Sea Region and concrete solutions to these challenges. Accompanying the Strategy is an action plan which includes as one of its priorities areas the reinforcement of sustainable agriculture, forestry and fishing. Several convergence, competitiveness and co-operation programmes are co-financed from the European Regional Development Fund (ERDF) in the Baltic Sea Region in the period 2007-2013 – see

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*In the context of the EU financed project “European Water Conference 2009 on Public Participation and River Basin Management Planning”*
Box 18 Baltic Sea macro-regional nutrient reduction flagship project for an example.

**The Drinking Water Directive** sets quality standards for the most common substances (so called parameters) found in drinking water with the aim to make sure that drinking water across the Community is clean and healthy. At a minimum, 48 microbiological and chemical parameters (Annex I) must be monitored and tested regularly but Member States are free to regulate additional substances relevant within their territory or set higher standards. Monitoring results must be reported to the European Commission every 3 years and made available to the public. Drinking water parameters relevant to the agriculture sectors are limits on the nitrate (0.50 mg/l), nitrite (0.10 µg/l) and pesticides⁹ (0.50 µg/l).

In this context, for the establishment of the Farm Advisory System provides for an opportunity to help farmers on complying with water related requirements. It also opens a possibility to take into account not only the basic Directives and regulations included in the water related SMRs but also other environmentally related directives and strategies if enough capacity is available.

**Rural Development Regulation**

To support the use of advisory services and the setting up of new advisory services, Council Regulation 1698/2005 on support for rural development by the European Agricultural Fund for Rural Development for period 2007-2013 offers a few different financing instruments. Article 21 “Vocational Training”, article 24 “Use of advisory services” and article 25 “Setting up of management, relief and advisory services” are the three main articles used to fund advisory services under the rural development programmes (see section 12.2 for detailed financing information). Using rural development money to fund farm advisory services requires that the services include advice on at least SMR, GAEC and occupational safety standards.

5 Current situation of FAS in MS – Institutional and organizational aspects

5.1 Institutions involved in the current FAS

According to Regulation 1782/2003, Farm Advisory Systems in the MS had to be set up as of January 1st 2007 at the latest. In some Member States, the FAS was built by integrating existing agriculture advisory structures or private advisory bodies into the FAS, whereas in other Member States a new advice network specialising on SMR and GAEC was created. The regulation does not specify how the FAS should be organized or who may provide the advice. In other words, MS are free to decide how they set up the system and had the possibility to make use of existing capacity.

Povellato and Scorzelli (2006) have developed the following classification of who may provide advice:

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⁹ Refers to organic insecticides, herbicides, fungicides, nematocides, acaricides, algicides, rodenticides, slinicides and other growth regulators. In the case of aldrin, dieldrin, heptachlor and heptachlor epoxide the parametric value is 0.030 µg/l.
organised by government or other public organizations. In every Member State there are state or local institutions that provide a certain level of advice whilst focusing on a broader range of activities (Ministries of Agriculture or Environment Agencies, local administrations, etc.);

organised by private organizations. Private organisations include farmers’ organisations, private agronomists and input suppliers that offer technical advice on several issues, such as farm investments, management plans, and certification schemes; or

mixed (both private and public)

It should be noted that the institutions providing funding are presented in chapter 12.
Box 2: Examples of the organisation of current farm advisory services

In 2005, the Estonian Minister of Agriculture certified 15 private county advisory centres, most of them related to farmers’ unions and some to producers’ organisations. The advisory centres are intended to implement the obligation of the EU Member States to provide an advisory system that, at the very least, has to guarantee advice for agricultural producers with regard to meeting compulsory management requirements, good agricultural and environmental conditions and food handling. The regional activities are coordinated by one centre, which also has to ensure uniformity of the level of information given by advisory centres; provide training and in-service training of agricultural advisors; organise the communication to advisory centres about information relating to national measures; as well as give feedback and arrange the schedule of forestry, agricultural and rural economy information days.

An advisory service on production technology is provided by the pig producers’ organisation, for example, which employs a total of five advisors and input sellers.

The Latvian Agricultural Advisory and Training Centre (LRATC) was established in 1991. The organisation is managed under the Ministry of Agriculture and receives about 50-60 per cent of its funding from the state. LRATC has about 377 employees and there is one Rural Advisory Office (RAO) of the LRATC in each of the 26 regions. The Rural Advisory Offices (RAO) employ advisors in the different fields of production, and in the regional offices there is always an advisor specialised in plant production, often one in animal husbandry, economics, crop farming, book-keeping, veterinary medicine, rural development and technical matters, as well as other fields. Each crop advisor has on average 20 clients who pay for services in crop and fertiliser planning, advice on plant protection via field visits and economic evaluation of production. The advisor arranges field days, which are also attended by farmers other than the clients. The main aims are: improvement of the efficiency of agriculture in Latvia, development of market-orientated agriculture, assisting development of rural economy and welfare.

Some of the commercial companies do their own advisory work as well. There is good cooperation between LRATC and commercial companies in connection with promoting the most profitable and environmentally friendly solutions in agriculture. There are many educational seminars during the winter and practical field days during the growing season as a result of this cooperation. LRATC crop advisors take part in the activities of processing companies.

In 1999, the advisory service in Poland was re-organised into 22 public regional advisory centres and 7 expert offices that aim to serve not only the public advisory service but also the newly developed advisory services created by farmers’ organizations and private consultants providing services to processing companies and associations of producers and businesses.
It should be stressed that the Polish advisory service is undergoing changes typical for countries with a developed market economy in agriculture. New forms of advisory services are arising under different institutions including farmers’ organisations, but the public advisory service is still dominant. Other possibilities for education of farmers and the rural population are provided by R&D institutes belonging to the Ministry of Agriculture and Rural Development, universities and colleges, agricultural vocational schools, foundations, associations and regional development agencies. There are currently sixteen Voivodship Advisory Service Centres responsible for advising farmers, one in each voivodship and directly under the local voivodship administration. There are 21 branches, and 313 local offices in each county-powiat (level between municipal and regional).

The Agricultural Advisory Centre in Brwinow, with branches in Kraków, Poznań and Radom directly under the Ministry of Agriculture and Rural Development, is responsible for training and development of the advisory service for the whole country.

The respective boards for these organisations include representatives from the Ministry of Agriculture and Rural Development, the voivodship administration (the regional organisations), the Chamber of Agriculture or farmers’ unions.

The organisation of farm advice in Germany is decentralized due to its federal structure. While Bavaria, Saxony, Hesse and Baden-Württemberg have tax-funded state advisory services, the advisory services in the eastern German Laender (except for Saxony) are organised privately. Lower Saxony, North Rhine-Westphalia and Schleswig-Holstein have mixed advisory services (agricultural chambers and advisory circles that benefit from state funding).

In Bavaria advisory services are organised by 47 local Departments of Nutrition, Agriculture and Forestry under management of the State Ministry of Nutrition, Agriculture and Forestry with the following organisational structure:
Included in the “Advice and Education Division” is assistance regarding business development, funding advice, implementation of legal requirements (i.e. cross compliance) and consultation on public goods such as water protection, soil protection and animal welfare etc.

In Austria extension services in the fields of agriculture and forestry are mainly carried out by the Chambers of Agriculture (“Official extension services”). With approximately 600 advisors, the nine regional Chambers of Agriculture and their districts branches (“Bezirksbauernkammern”, district farmers’ chambers) represent the most important sources of agriculture and forestry extension services. The Federal Ministry of Agriculture, Forestry, Environment and Water Management exercise a central role in planning, controlling and supporting the official extension services. Advisors are trained at the University of Agricultural and Environmental Teacher Training in Vienna (Hochschule für Agrar- und Umweltpädagogik Wien).

In addition, there are further public and private educational programmes offered by:
- The Governments of the Federal Provinces,
- The Forestry Training Institutes (FAST) of the Federal Ministry of Agriculture, Forestry, Environment and Water Management,
- The organic farming associations,
- Austrian Council for Agricultural Engineering and Rural Development (Österreichisches Kuratorium für Landtechnik und Landentwicklung, ÖKL), and
- The Austrian Grassland and Forage Cropping Working Group (ÖAG) and other public and private bodies.
The task of consulting is to offer farmers assistance in all entrepreneurial problems as well as processes of change. Advice always refers to current and concrete company-related issues. Furthermore, help is also offered to solve social issues.

In Hungary the Ministry of Agriculture and Rural Development is responsible for the management of the advisory system, and its Educational and Advisory Institute maintains the operative tasks (efficiency and assessment of the advisory etc.). The Regional Advisory Centres (7) are integrated in universities that take part in the vocational training for the advisors. To get EU support to mitigate their advisory costs, farmers have to apply directly to District Advisory Centres. 82 District Advisory Centres are entitled to ensure consultancy, which includes scientific associations, chambers, farmers’ association and education’s association. The list of the advisors is available in the Office of Hungarian Agriculture Chamber Information Service or at www.vkszi.hu in the site’s area’s decoupling and indication of speciality.

In the Czech Republic the Ministry of Agriculture (MoA) is the conceptual and governing advisory body of the system. It creates conditions for the provision of advisory services via support programmes from national grants and the Rural Development Programme (RDP). The Institute of Agriculture Economics and Information (IAEI) is a grant-maintained organisation of the MoA focussing on education and advice. It is entrusted with the management of the Register of Advisors of the MoA, their accreditation preparation, the checking of advisory services supported from the RDP, measure I.3.4. The IAEI prepares methodological materials for the individual levels of the advisory system and coordinates the expert activity of scientific-research institutions. Agencies for agriculture and the countryside (AAC) are part of the National Rural Network at the regional and district level. They mainly provide advice about aid schemes. The regional information centres for the development of agriculture and the countryside (RIC) ensure the transfer of information from the central bodies and regional authorities to target groups through classification and processing according to regional needs. The National Advisory Council for Agriculture and Rural Development is the advisory and initiative body of the Ministry of Agriculture for activities associated with public support for advisory activity in the field of agriculture and rural development. The following make up the National Council:

- units of the ministry which formulate requirements for the advisory system (including AAC) and IAEI as control body,
- agrarian non-governmental, non-profit-making organisations which represent the needs and interests of entrepreneurial subjects operating in the area of agriculture,
- research institutes and universities from the aspect of transfer of professional knowledge.

For its activity, the Ministry uses the provided recommendations, suggestions and comments of the National Council, and thus it ensures the participation of representatives of agricultural non-governmental organisations in the creation and designation of advisory aims, procedures and evaluations.

The Chamber of Agriculture and Forestry in Slovenia (CAFS) is responsible to present and to look after the interests of agriculture, forestry and fisheries. The main tasks are to give up to date
information on agriculture and forestry for the farmers and public as well as organize different conferences and round table discussions. The Agriculture Advisory System Sector helps the work of CAFS at national level in discussions with the parliament etc. It supports the coordination work in different fields. The regional agriculture and forestry institutes (8 at regional level) ensure the specialized services. At local level 60 local offices exist with “general” advisors.

The Flemish government provides subsidies within the framework of FAS regulation. This advice itself is given by certified private advisory bodies. The responsible authority is the Agriculture and Fisheries authority. The daily follow-up (certification, control) is done by the Agency for Agriculture and Fisheries (division Structure and Investments, central service).

The Flemish Land Agency is as an agency of the Flemish Government and is responsible, among others, for the reduction of water pollution by nutrient losses from agriculture. Therefore, the FLA has started a farm advice service which guides farmers in reducing nutrient losses to the environment. This service can be seen as additional to the FAS subsidized by the Department of Agriculture. In the service offered by the FLA water quality is the main objective.

In Finland, the obligatory farm advisory system is limited to help farmers to fulfil the requirements of CC. However, the funds for running this advice are less than 200 000 € per year, i.e. it is not used widely. In a broad sense (including advisor organizations and private advisors who provides general agricultural advisory), the main objective of advice is not water protection or environmental issues, although these issues are (or at least should be) taken into account in all activities. An emerging interest in water management has arisen among farmers due to the WFD, the Baltic Sea Region Strategy and national water management goals and programmes.

The Farm Advisory System in Lithuania consists of three main advisory services, one service for meeting the SMRs and GAECs (cross compliance). It is organised into 4 institutions with 118 certified advisors. The second advisory service focuses on agri-environmental issues for farmers who intend to participate in agri-environmental measures. 25 institutions with 223 certified advisors share the responsibility. The third advisory services focuses on forest owners (10 institutions with 78 certified advisors).

Farm advice in England is based on three main farm advice systems that provide advice to farmers with relevance to reducing the impact of agriculture on water quality:

1. Farm Advice System (to deliver cross compliance). The aim of Defra’s Farm Advisory System is to provide advice to farmers on land and farm management in line with cross-compliance requirements. The system, offering advice to commercial farms, will help increase farmers’ awareness of material flows and on-farm processes relating to the environment, food safety, and animal health and welfare.

2. England Catchment Sensitive Farming Delivery Initiative (ECSFDI) (specifically to target pollution from agriculture impacting water quality). The ECSFDI is part of Defra’s Catchment Sensitive Farming Programme, which aims to tackle Diffuse Water Pollution from Agriculture (DWPA) to meet the objectives of the Water Framework Directive. ECSFDI is a project that is run in partnership between the government (Defra) and its delivery agencies Natural England and the Environment Agency.
3. Campaign for the Farmed Environment (CFE). Through the CFE, farmers will be offered the best possible advice and guidance on how to retain and increase the environmental benefits provided by farm land. The campaign does not involve any regulation and in many cases provides a financial incentive through advising the farmer to enter into an agri-environment scheme (Entry Level Stewardship, Higher Level Stewardship, and Organic Entry Level Stewardship). These agri-environmental schemes were launched in 2005 and provide funding to farmers and other land managers to implement effective environmental management techniques on their land.

A further advice service - Environmental Stewardship Enhanced Training and Informative Provisions (ETIP) - will be established from April 2010-2013. The programme has been devised as a result of findings in the Environmental Stewardship Review of Progress, which reported last year that farmers needed more assistance in deciding which agri-environmental scheme options would be best suited to their farms.

5.2 What is the strategic direction of the current FAS in the MS?

Farm advice under FAS can cover several issues and can have different strategic directions (e.g. including the improvement of business performance or environmental performance). The core aspect is to help farm comply with the cross compliance rules. Other environmental issues beyond cross compliance can be of different importance depending on the overall strategy. As cross compliance covers basic standards related to environment and water, issues related to the protection of water\(^\text{10}\), should therefore always form part of the FAS. Other water issues can have a high or low priority among environmental issues according to the priorities of the Member States.

Box 3: Strategic Focus of FAS in Lithuania and England

<table>
<thead>
<tr>
<th>Country</th>
<th>Services Addressing</th>
<th>Services Covering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithuania</td>
<td>Planning activities, crop protection plans, soil sampling, nutrient balance, etc.</td>
<td>Business plans for agro-environmental investments; Project implementation and supervision.</td>
</tr>
<tr>
<td></td>
<td>Farm evaluation, manure, pesticide, fertilizer storages, animal welfare, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design services, design of manure storages, documentation for construction, environmental substantiation, etc.</td>
<td></td>
</tr>
</tbody>
</table>

The FAS in Lithuania has two main service directions, both covering inter alia environmental issues:

Technological services addressing:

- Planning activities: fertilization, crop protection plans, soil sampling, nutrient balance, etc.
- Farm evaluation: manure, pesticide, fertilizer storages, animal welfare, etc.
- Design services: design of manure storages, documentation for construction, environmental substantiation, etc.

Economical services covering:

- Business plans for agro-environmental investments;
- Project implementation and supervision.

The main objective of FAS in England is to help farmers meet the terms of cross compliance. Three main types of farm advice are provided by the government in the UK. Of the three, the England

\(^{10}\) For example, those covered under the Nitrates Directive, the plant protection products directive, the limitation of pollution and run-off covered under the GAEC standards on buffer strips and water authorisation
Catchment Sensitive Farming Delivery Initiative (ECSFDI) is the main source of advice on improving water quality through:

1. **Regulation**: Natural England offers advice on cross compliance through group workshops which are delivered by contractors, under a separate contract to ECSFDI.

2. **Voluntary Action**: The ECSFDI offers free advice to farmers and land managers on how to reduce diffuse water pollution from agriculture (DWPA). The main focus of the advice is on environmental issues, namely improving water quality, although the economic benefits of implementing measures are strongly highlighted to farmers as these are more likely to affect their willingness to implement the measures. ECSFDI advice is delivered by Catchment Sensitive Farming Officers (CSFOs) working for Natural England and the Environment Agency and by contractors working on behalf of ECSFDI. ECSFDI advice goes beyond cross compliance. Recommendations are made to farmers on measures which they could implement on their farm to reduce DWPA. These measures are more specific than cross compliance and relate to land use, soil management, manure and nutrient management and farm infrastructure. ECSFDI was set up to help the UK to meet its objectives in three key areas of environmental policy. These are:

   • the Water Framework Directive, implementing appropriate Programmes of Measures in every catchment to ensure that all water bodies reach good ecological and chemical status and that groundwater reaches good quantitative and good chemical status by 2015—or 2027 where 2015 is not possible
   • Achieving protected area objectives, a key part of the Water Framework Directive and one of the priorities for the first cycle of river basin management. Protected areas include: Drinking water protected areas; Bathing waters; Natura 2000 sites designated Special Areas of Conservation or Special Protection Areas under the EC Habitats and Wild Birds Directives; and Shellfish waters
   • Bringing 95% of SSSIs into ‘recovering’ or ‘favourable’ condition by 2010, in line with Public Service Agreement targets set in 2004.

3. **Incentive Schemes**: Natural England advisors also offer advice on agri environment schemes, for which farmers receive payment for carrying out measures to benefit the environment.

**5.3 Is there any prioritization in FAS to certain categories of farmers or problems?**

Regulation 73/2009 states that Member States may determine, in accordance with objective criteria, the priority categories of farms that have access to FAS (Art.12). Since it is not easy to manage such priorities in practice, not many Member States have applied priority categories until now.

Prioritization approaches can be distinguished into 4 categories:

- **No target groups**: AT, BE (Flanders), DE (11 Länder), FI, FR, IE, IT (3 regions), LU, PL, SE, SK, UK (Scotland and Wales).

- **Farmers receiving more than 15,000€ in direct payments under Pillar 1**: DE (1 Länder), DK, HU, LV, NL.
• Various target groups regardless of how much direct support received: BG, CY, IT (9 regions), PT, RO, UK (England), SI.

• Mixture of target groups and farmers receiving more than 15,000€ in direct payments under Pillar 1: BE (Wallonia), CZ, DE (1 Länder), EE, EL, ES, IT (9 regions), LT, UK (Northern Ireland).

The table below shows examples of the different priority groups implemented by the MS.
### Table 4 Priority categories of farms for FAS

<table>
<thead>
<tr>
<th>Target groups</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young farmers or women</td>
<td>BG, CZ, CZ, EE, EL, ES, IT (14 regions), LT, PT</td>
</tr>
<tr>
<td>Farmers in Nitrate Vulnerable Zones or with phytosanitary emergency plans</td>
<td>EL, ES, IT (7 regions), RO, UK (EN, NI), PT</td>
</tr>
<tr>
<td>Farmers in mountainous or less-favoured areas (LFA)</td>
<td>BG, EE, EL, ES, IT (6 regions), RO</td>
</tr>
<tr>
<td>Farmers receiving agro-environmental support or other payments under pillar 2, axis 2</td>
<td>BG, EE, EL, ES, IT (1 region), RO</td>
</tr>
<tr>
<td>For a particular production</td>
<td>EL: tobacco and/or cotton cultivation</td>
</tr>
<tr>
<td></td>
<td>DE (NRW): crop production and dairy farms</td>
</tr>
<tr>
<td></td>
<td>ES (4 regions depending on the production): milk and ovine or wine and livestock; pork farms</td>
</tr>
<tr>
<td></td>
<td>IT (in 2 regions depending on the production): goat/sheep, vegetable</td>
</tr>
<tr>
<td></td>
<td>SI: Livestock breeding farms</td>
</tr>
<tr>
<td></td>
<td>UK(EN): Sheep and Goat</td>
</tr>
<tr>
<td>Farmers in semi-natural habitats or Natura 2000</td>
<td>EE, EL, ES, IT (3 regions), PT</td>
</tr>
<tr>
<td>Producer Groups or cooperative</td>
<td>BG, ES, IT</td>
</tr>
<tr>
<td>Farmers with quality system or programmes</td>
<td>ES (some regions) and IT (1 region)</td>
</tr>
<tr>
<td>Farmers who only employ one employee</td>
<td>CZ and IT</td>
</tr>
<tr>
<td>Farmers who received advice more than 3 years ago</td>
<td>BE (Wallonia) and ES</td>
</tr>
<tr>
<td>Farmers that received CC penalties</td>
<td>BE (Wallonia) and SI</td>
</tr>
<tr>
<td>Organic farming</td>
<td>IT (1 region)</td>
</tr>
<tr>
<td>According to size</td>
<td>RO</td>
</tr>
<tr>
<td>Semi-subsistence Farms undergoing restructuring</td>
<td>BG</td>
</tr>
<tr>
<td>Safety at work</td>
<td>CZ</td>
</tr>
</tbody>
</table>

5.4 Is water a specific advice issue or is the advice integrated into other advice issues (e.g. soil, air)?

The FAS established by Member States can cover both cross compliance and wider issues, such as land and farm management, by linking FAS with other advice programmes. Several Member States (Czech Republic, England in the UK, France, Lower Saxony in Germany, Italy, Lithuania) provide cross compliance advice as part of a wider system of advice, with a focus on agronomic, technical and business issues.

**Box 4: Content of a wider advisory service in Austria**

In Austria, as a consequence of the multifunctional character of agriculture and forestry, the services addresses different target groups, whether full-time, part-time farm, inner-agrarian occupational combination like “holiday on farm” or direct marketing. Current priorities of extension services include:

- Company development and business management
- Low-cost and appropriate stable construction
- Inner and non-agrarian occupational combinations
- Food quality and nutrition
- Renewable energy
- Marketing
- Organic farming
- Plant production
- Animal production
- Legal, tax and social security issues
- Information and advice on subsidies
- Near-natural forest tending measures

Extension through advisory service study groups is a special type of extension. Under the direction of specially trained advisors, 15 to 20 farmers with the same production focus join to form a working group existing over several years. In early 2006 some 3,500 farmers in 240 working groups took advantage of this consulting service, which is offered in cooperation with the Ländliche Fortbildungs-Institute (LFI).

The working groups are coordinated nationwide and have been set up for the following areas: dairy production, cattle fattening, suckler cow keeping, pig production, lamb fattening, market crop cultivation, farm holidays, and business management.

Water specific advice is found in Lower Saxony in Germany, Sweden and Wales.
Box 5: Content of a water specific advice service in Sweden, Wales, Lithuania & Belgium

In the past, the advice in **Sweden** advice focused clearly on nutrient reduction in water. The 43 different advisor firms involved provide different type of advisors, namely:

- Crop advisors
- Environmental advisors
- Wetland construction advisors
- Animal husbandry advisors

Repeated farm visits by advisors providing flexible advisory modules adapted to the type of farm (crop, animal husbandry, etc) allow the identification of farm-specific measures. Follow-up visits at each farm allow not only the establishment of stable relationships between the farmer and the advisor but also a continuous improvement of the environmental situation.

The **Welsh** Assembly Government (WAG), in partnership with the Countryside Council for Wales, Environment Agency Wales and Snowdonia National park Authority, ran a pilot project to promote catchment sensitive farming in three catchments between 2005 and 2008. The project sought to improve the environment and reduce farming's impact on local streams, rivers and lakes. When the project opened, publicity material was sent to all farmers and local public meetings were held to explain and promote the initiative. All farms that completed an expression of interest received a visit from a catchment officer, who undertook a farm inspection to identify pollution risks and collect data for evaluating nutrient and manure management practices. The dialogue also helped to raise awareness of water issues and promote discussion of practical issues relevant to the farm being visited.

In order to maximise uptake, project staff used a range of methods to target farmers including liaison with Farming Unions, telephone calls to farmers, ‘cold-call’ farm visits, evening talks and demonstration events. Positive feedback within the farming community from farmers who had already entered the scheme also helped in persuading the more cautious and sceptical farmers.

Farmers seeking to undertake infrastructure works were provided with an application form at the end of the initial farm visit and were invited to submit details of proposed construction works. These were scrutinised by catchment officers to ensure that proposed works were essential for mitigating pollution and that they targeted the main issues. The farmer then submitted a formal application for approval with cost estimates and necessary approval.

In **Lithuania** specific trainings are offers to farmers addressing specific water related problems:

- “Manure Handling” (duration – 18 hrs);
- “Environmental Protection in Agriculture” (duration 16 hrs);
- “Implementation of Rules and Recommendations of Code of Good Agricultural Practices” (duration 40 hrs);
- “Water Management in Agriculture” (duration 16 hrs)
- “Operation and Maintenance Requirements for Wells and Artesian Boreholes” (duration 8 hrs)
The Flemish FAS advice is subdivided into 5 modules. Module 1 to 3 exist of advice on the Good Agricultural and Environmental Conditions and Statutory Management Requirements. Except from these modules, also in Module 5 additional water related advice can be found. This module advises on business optimisation with one part focussing on the environmental parameters the farmer keeps during a year, e.g. water use. The Flemish Land Agency has a farm advice service which guides farmers in reducing nutrient losses to the environment. This service can be seen as additional to the FAS subsidized by the Department of Agriculture. In the service offered by the FLA water quality is the main objective.

5.5 What are the requirements to become an advisor?

Whether advisors in FAS are employed by private or public organisations, institutions try to ensure the quality of advice. Governments are often involved in requiring certification and training of advisors if they want to deliver farm advice. Such certification systems can be based on:

- The education (agricultural education) of the advisor and a minimum level of specific training
- Level of experience

Box 6: Requirements to become an advisor

Hungary has about 800 licensed advisors. The licensing is done by the National Advisory Centre. After finishing education at universities, advisors need to participate in basic trainings and examination to obtain skills based on agriculture administration, food production in the EU, how to transfer successfully the knowledge to the advisory service and information technology for agriculture advisors. Additional trainings to carry out the effective advisory system include the annual trainings based on EU subsidies, business plans and legal regulation in the agriculture national subsidies. Advisors can choose from 22 professional fields (e.g. arable land farming, animal husbandry, plant protection, animal health, melioration and water management, food safety, work safety, farm management and economy, etc.) and have to fulfil the following main requirements:

- University (MSc) or college (BSc) degree
- 3 years of practice
- Exempt from commercial interest
- No public administration work

In Denmark the approval of companies is based on:

- the ability to give overall advice on standards concerning environment, health of people, animals and plants, good agricultural and environmental condition, and environmental and nature conditions on the farms;
- having the administrative and technical facilities and equipment at their disposal;
- having experience in consultancy and a professional environment; and
- having an occupation insurance or similar coverage of responsibility.

To be approved, employees must have:

- completed an education as agricultural engineer or environmental engineer or similar;
• two years of working experience in consultancy; and
• completed additional education on advising on cross compliance, environment and nature conditions on the farm.

In the Czech Republic, candidates to become an advisor need to have the following requirements:
• Completed university education in doctoral, master’s, bachelor’s study programme or completed higher professional education, and as of the day of the submission of the application, at least three years of proven advisory or production experience in the selected sub-area of accreditation.
• Secondary education with final school examination, and as of the day of the submission of the application, at least four years of proven advisory or production experience in the selected sub-area of accreditation.
• If a participant entering accreditation proceedings cannot prove the achievement of the required advisory experience, the gaining of advisory skills will be part of the accreditation proceedings.

The candidate must successfully complete a preparatory course including professional preparation for attainment of certain knowledge for cross compliance, Natura 2000, agri-environmental matters, programmes having a relationship with departmental policy, for example the Rural Development Programme of the Czech Republic and subsequent programmes and safety at work. Finally, the candidate defends an independent accreditation project.

In Slovakia applicants have to participate in a specific educational programme (covering different agricultural aspects such as: Management and Development Trends, Plant Production, Animal Production, Organic Agriculture, Food Processing Industry, Rural Development, Forestry and Hunting.) At the end, an obligatory test and writing a thesis is required. The certification is valid for 5 years.

In Flanders the selection criteria for private FAS advisory bodies are: reliability built up during advisory activities in the past, past experience in environmental and farm management consulting, administrative and technical facilities and staff qualification. All these criteria have to be fulfilled to obtain a certification as a FAS operating body. Staff qualification has the highest relative weight. The minimum level of education required, depends on the experience of the advisor. An advisor without experience, needs a master or bachelor level (this depends on the courses he took). An advisor who only had a secondary school education, can also be certified if he has years of experience in advising farmers. The advisory bodies have to proof, by sending all the required documents, they meet all the selection criteria. The minister of agriculture certifies the advisory bodies. In order to get a certification for advisory activities on occupational safety standards, the advisor has to follow the course ‘prevention advisor / safety advisor level III’, or the course ‘safety at the farm’, organised by a private body.
5.6 Which further training is provided to advisors?

Agricultural and agri-environmental science is constantly improving and allowing for better ways to protect water; since its inception, standards have been added to the scope of cross compliance. Additionally, the needs of farmers on the type of advice they receive changes. Therefore, many Member States believe that continuous training of advisors is essential.
### Box 7: Courses for advisors

The Institute of Agriculture Economics and Information (IAEI) in the **Czech Republic** is responsible for ensuring up-to-date qualifications for advisors. The IAEI works together with universities, non-profit organization and the Agrarian Chamber of Commerce and organizes seminars and trainings for advisors. Advisers are involved into the system of compulsory education.

In **Sweden** the training courses for advisors are based on a survey every year. Examples for topics are:

- Reduced tillage – zero tillage
- Water protection areas and pesticide use
- How to maintain wetlands
- How to inspire change

Until 1995 in **Lower Saxony (Germany)**, there were advanced training courses for graduates from "green faculties" like agriculture, horticulture, geography etc.). Now, on-the-job training (introduction of provided information), workshops, training courses (e.g. by Chamber of Agriculture) and conferences (exchange of experiences, introduction of new methods) are used to keep advisors informed.

### 6 How to target the advice to solve a certain environmental problem?

There are widely differing advisory capacities in the EU Member States. The rate of advisors to farmers can range from 1:20 (such as in Denmark) to 1:500 (as in Poland) (see CIFAS stakeholder meeting, 2005). In most situations, however, selective targeting of advice is required to make the best use of limited resources. The key question in this context is "How to select the farmers that should be addressed?"

Across the Member States several approaches can be found:

- **Selection is based on farm location taking into account spatial geographical criteria regarding environmental issues, e.g. sensitivity of groundwater bodies to diffuse pollution, as a guiding factor for the targeting of advice. Targeting would in this case be based on location rather than type of farm.**

- **One possibility for prioritising farm types for advice is to use information from environmental authorities on the most prevalent types of farms in breach of environmental law or standards.**

- **Production focus (e.g. livestock farming, oil seed rape etc.) in relation to environmental problems caused by certain production types.**

- **Lastly, options for a self-screening of farmers. A new approach in England uses an internet-based questionnaire to identify types of environmental requirements and standards for which the participating farmers require advice. For example, arable farms do not need advice**
on the management of manure. At the same time, the (limited) ability of farmers to fill in the questionnaire and provide information on their individual needs for advanced or basic advice related to cross-compliance standards is a barrier to widely implement this approach.

Box 8: The Whole Farm Approach

The Whole Farm Approach (WFA) is a free online service for farmers in England. It makes use of a questionnaire system which seeks information on your current activities and gives best practice advice to take into account environmental requirements. It stores data about your farm and provides information on legislative requirements. The WFA offers a range of secure services which facilitate the completion of farming transactions online:

- **My Farm, Surveys & Assessments**: farmers can view and update their Farm Details, complete Surveys and use a range of self assessment and advisory tools online.
- **SPS Online**: provides support regarding the EU Single Payment Scheme (SPS).
- **The CTS Online**: farmers can report the births, movements and deaths of their cattle online.
- **The ELS Online**: farmers can apply for the Entry Level Stewardship (ELS) programme through an online application.

Source: [https://secure.services.defra.gov.uk/wps/portal/wfa](https://secure.services.defra.gov.uk/wps/portal/wfa)
In several Member States, where the whole country is not covered by a nitrate action plan, advice is targeted to particular Nitrate Vulnerable Zones (e.g. in Sweden) with a subdivision into the different farm types.

**Focus on Nutrients**

- Target areas: Nitrate vulnerable zones according to EU Nitrate Directive, areas with high N or P load: farms with > 50 ha arable land or 25 livestock units

The Flemish Land Agency approaches the selected target groups in a proactive manner, e.g. they measure farms for nitrate residues in the soil when they are situated in risk zones for nitrate pollution. To select the farms, the FLA uses its own data, which are collected by the environmental authority on nutrient losses to the environment.

In Hungary advice is based on a self screening where farmers with special problems seek advice. However, advisory centres and advisors also survey farms in the area in order to find clients with environmental (or other) problems.

In Austria a self-screening of farmers is carried out.

In Ireland the self screening does not work in practise, and the majority of farmers prefer to employ a professional advisor to cast a critical eye on their farm and guide them with their farming activities including cross compliance measures.

The present advisory system in Finland is volunteer-based in that farmers contact advisors. However, there is on-going discussion (e.g. TEHO-Project, www.ymparisto.fi/teho) how advice should be addressed in the future. Selection could be made on the basis of the evaluated environmental risk. In the Finnish case, this could mean fields that are prone to erosion (sloping fields close to water bodies) with high soil nutrient status. On a larger scale, advice could focus on river basins, for example, which are in poor condition or where animal husbandry is intensive. Selective advising is essential to gain best possible results in a cost effective way. More sophisticated methods for targeting water protection measures are under development (e.g. Rusle-erosion model).
The experiences from the TOPPS project show that the need for environmental advice generally cannot be linked to farm size or production capacities. Water pollution from pesticides is linked much more to the application technology in operation than on the areas treated. This assumption is also valid for nitrate issues. Advice, therefore, should be concentrated in areas which represent a certain risk. In areas with high risks, audit concepts where every farmer is included can be implemented to complement advice activities. This gives at the same time a measure for progress (Audit report; details TOPPS Upscaling report). In such areas mandatory measures are probably needed. In less vulnerable zones cooperation models on a voluntary basis can be sufficient. In areas with low risk general advisory meetings and respective media support might be sufficient.

The England Catchment Sensitive Farming Delivery Initiative is available to farmers and land managers in 50 Priority Catchments in England. The priority catchments were selected because they are at highest risk of failing WFD and SSSI targets due to DWPA. Identification of these catchments was jointly done by the Environment Agency and English Nature (EN) using risk-based maps for WFD combined with sensitivity data and EN’s prioritised list of designated sites at risk from agricultural pollution. Data for the risk-based maps was gathered on nitrates, phosphorus and sediment pollution, combined with data on sensitive freshwater fisheries, chalk streams, failing bathing waters, ground waters and Special Areas of Conservation-designated lakes. Holdings are targeted which risk having adverse impacts on water bodies, including shellfish and bathing waters, failing good ecologic status; water bodies in drinking water protected areas; and SSSIs in failing condition due to DWPA. In order to target delivery, Catchment Sensitive Farming Officers undertook detailed catchment appraisals. In doing this, they reviewed the outputs from risk-based models and sought local stakeholders’ views to determine priorities for delivery in terms of pollutants, activities and geographical areas in the period from autumn 2006 to spring 2008. These priorities were agreed and signed off by the Catchment Steering Groups.

Advice is targeted at those holdings most likely to be contributing to specific problems, for example, riparian livestock farms linked to downstream bathing waters which have a high level faecal contamination or root / vegetable farms with connectivity to a SSSI watercourse that is failing its condition target because of excessive siltation.
7 What are the different farm advisory approaches that could be used?

Information on cross compliance should be made available to all farmers\(^\text{11}\). This information can also serve as a tool to assist advisory services in their activities in the framework of the FAS. As stated in chapter 1.2 and 3, farm advice may be related to a wide variety of activities. One to one advice on the farm or off the farm can be mixed with more interactive approaches and integration with group activities. The following section provides an overview of the most common tools and approaches with the possibility to assist advice within the FAS.

\(^{11}\) Member States are obliged to provide information to farmers on cross compliance requirements according to Article 4(2) of Regulation 73/2009
7.1 Which tools to provide information exist?

<table>
<thead>
<tr>
<th>Tool</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Booklets/brochures:</strong></td>
<td>Booklets and brochures usually represent text describing farm practices leading to water pollution and how to prevent it. Some of them form a framework for other tools, for example a booklet can be used as a framework for other specific booklets. Such publications should have accessible language as the target group is farmers. In other cases, one finds more comprehensive booklets or books, for example with detailed instructions for nutrient management. In this case, the target group is usually advisors. Booklets are disseminated in printed and/or electronic form (accessible via internet).</td>
<td><img src="http://www.landwirtschaft-bw.info/servlet/PB/menu/1064966/index.html" alt="Image" /> <img src="www.gqs-bw.de" alt="Image" /></td>
</tr>
<tr>
<td><strong>Posters and leaflets</strong></td>
<td>Posters and leaflets explain why certain environmental friendly practices matter and/or present case studies from farmers</td>
<td></td>
</tr>
<tr>
<td><strong>Check lists:</strong></td>
<td>Check lists usually contain a set of questions or statements targeting compliance with SMR/GAECs or linked to supporting information. This tool is used either by farmers for self-checks (Germany) or by advisors during one-to-one visits on the farm (The Czech Republic, Germany). In cases when the check list is used as a self-check, it does not require a lot of data or high expertise. When used by advisors, the completion of the check list is in many cases followed by targeted advice or supporting studies on the farm.</td>
<td><img src="http://www.landwirtschaft-bw.info/servlet/PB/menu/1064966/index.html" alt="Image" /> <img src="www.gqs-bw.de" alt="Image" /></td>
</tr>
</tbody>
</table>
### Newspaper/periodical news bulletins:

Farmers are informed regularly through newspapers or other periodical news bulletins on cross-compliance issues in most Member States.

### Standardised PowerPoint presentation:

In most Member States, farmers and advisors are provided with training on cross-compliance. This process is often supported by standardised PowerPoint presentations, which in most cases are uniformly used across the country. In the second case, training entails not only a presentation of SMR/GAECS and the related farm practices but also an explanation of the use of the other tools. For example, training helps farmers in England to use manuals for the design of soil conservation plans.

### Codes of good practice

A Code of Good Agricultural Practice is a practical guide to help farmers, growers and land managers protect the environment in which they operate. The Code describes key actions farmers can take to protect and enhance the quality of water, soil and air.

### 7.2 Which methods exist?

Following tools and methods that provide an interactive exchange between the farmer and the advisor may be complementary to the delivery of advisory services under the FAS:
<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manual, template for a farm plan</strong></td>
<td>A manual is usually a text or table guiding farmers or advisors through a complex task. For example, farmers are required to apply nitrogen in an amount that does not exceed crop requirements. In this case, tables with standardised data sets are used. The manual guides farmers and/or advisors in the calculation of the amount of nitrogen fertilisation which should be applied to each crop to attain expected yields. Manuals are frequently part of a booklet and, therefore, a clear distinction between these two types of tools is not always possible. Templates are outlines providing the structure for designing farm plans. (e.g. a farm conservation plan). The template helps to organise the collection of necessary information on the farm and guide advisors in drawing up recommendations. The manual can take the form of a printed document with tables or a simple model or be part of more sophisticated software models.</td>
<td>Farmers and/or advisors can check if a farm or field is located in NVz at <a href="https://farmar.mze.cz/geonetwork/srv/en/main.home">https://farmar.mze.cz/geonetwork/srv/en/main.home</a> At <a href="http://www.magic.gov.uk/">http://www.magic.gov.uk/</a> farmers can a web-based interactive map service that brings together environmental information from across government.</td>
</tr>
<tr>
<td><strong>Plan/map</strong></td>
<td>Plans or maps are often internet-based tools in the form of geographic information systems or derived from aerial pictures. Farmers and/or advisors can check if a farm or field is located in a designated protected area. In addition, some suggestions are attached to the database concerning environmental farm management in the protected area concerned.</td>
<td></td>
</tr>
</tbody>
</table>
Software model/computer tool

In the case of complex environmental issues, sophisticated software models are used to facilitate advice. This tool is frequently used for nutrient management in crop production. Some of the tools are relatively simple and help calculate, for example, nutrient balances. Others take into account regional/local conditions and could estimate nutrient losses and propose the right level of fertiliser use. This type of tool is used in several Member States, both for cross-compliance advice and for plant production advice. Such models often include sections on manure storage capacities, crop rotation, reporting on nutrients use (on field level) etc.

This category also comprises tools which are part of a large database and model system, supporting whole farm advice (Denmark, England).

Another type of software model/computer tool was developed to assist farmers in applying for the entry level agri-environment scheme in England. The measures are offered by this tool are in accordance to the actual occurrence of particular bird species in the farm locality (supported by a large database).

One-to-one farm visits

At the farm or at another location, an advisor visits a farm and provides specific advice targeted to the needs of the particular farmer. Generally this method provides a good chance that the farmer accepts solutions proposed by the advisor as it is a persuasive method, giving the farmer the possibility to react or ask more specific questions in order to be convinced of the usefulness or practicability of the given advice. One-to-one visits allow farmers to build relationships and trust with their advisor, so this advisor is best placed to encourage new techniques and developments on that farm including legal
obligations. Through this relationship, the advisor is able to set targets for the farmer and is in a position to return to assist them with their objectives. A one-to-one visit can also be a one-off event where an advisor visits a farmer and the advice given is considered sufficient for the time being.

| Small Groups | Farmers are trained or informed during specific events, such as training courses, workshops, seminars or information meetings. On specific topics, a group of farmers with a similar business or causing a similar problem due to similar production methods are trained at the same time. This method can be delivered on farm or indoors at a low cost but has the disadvantage that some farmers are reluctant to explain individual farm problems or ask questions in group sessions. However, at the occasion of a seminar or a small group training event, farmers meet the advisor and can address specific individual farm problems either after the training or during an on-farm visit at a later stage. A variation of this method can be "Field Days" in which farmers meet advisors on selected farms and receive information on specific topics that are generally demonstrated on the farm. |
| Training courses, workshops, seminars and information meetings | Farmers are trained or informed about specific events |
| Telephone helpline: | Simple issues may be solved during a telephone call, however, the person providing such a service should be trained in the topic. Helplines are often a first step to asking for further advice on the farm and usually help decide which specialised advisory body is most capable to solve the problem. This method is tailored to the individual problems on the farm and is a low cost option. However, it may be difficult to explain individual farm |
| The main function of CSGs in the UK is to concentrate expertise from the Natural England/Environment Agency partnership, key local stakeholders and farmers to shape catchment sensitive farming activity within the catchment, in particular advice delivery that takes into account local circumstances. The terms of reference for CSGs are: |
| - To champion ECSFDI within the catchment. |
| - To give advice on local diffuse water pollution from agriculture. |
| - To assist Catchment Sensitive Farming Officers (CSFOs). |
| - To inform catchment appraisals and delivery plans. |
| - To identify relevant solutions and delivery actions. |
| - To assist evaluation and monitoring of the ECSFDI. |
| - To ensure value for money for the ECSFDI. |

It is used in England in the framework of cross-compliance information supported by the government. The tool covers all SMR/GAECs. See http://www.crosscompliance.org.uk/cms/contact-us/
Information by way of internet

| problems by phone, and the helpdesk has less of a change to detect problems/wrong behaviour than an advisor if the farmer is not aware of them. Information via internet can be provided either in a general form but also tailored to specific types of farms or frequently asked questions of farmers. A discussion forum allowing discussions and different opinions could also be used. | See e.g. http://www.activefarming.org/forum |

Different methods are often combined by the Member States to optimize delivery. The experiences gained from the different Member States suggest that one-to-one advice is the most effective way of advising farmers. However, costs for this type of advice are also considered as the highest, as the advice requires a high level of human resources.
7.3 How to select the right tool(s) and methods?

Several factors on the farmers but also on the service provider side influence the decisions of which type of tools/methods that should be use. Influencing factors when selecting tools are:

- On the farmers side:
  - Motivation and resources (time, financial resources, environmental awareness) of the farmer to participate
  - IT knowledge
  - Full time/ part time business
  - Type of production
  - Previous education level

- On the service side
  - Number of farmers that can be simultaneously reached
  - Budget constraints
  - Adequate amount of well trained advisors
  - Issue/activity/theme focused

The experiences from the different MS suggest following a multiple approach by providing several tools and methods at the same time. It is, therefore, suggested that the measures need to be adapted to the problems in an area. Specific problems might need direct personal advice. Areas with fewer big problems may be able to work with a segmentation approach. Farmer segmentation, as outlined in chapter 9, is a key.

Box 10: examples from Member States on how to select the right tool(s) and methods?

In Hungary the method is always decided on by the advisor, depending on what the farmer wants. Most farmers require personal visits and consultation. Many of them want the advisor to be available on the phone at all times. Not many farmers use the internet but use is growing; however, while general information can be valuable, it does not provide information tailored to the farm. Few farmers tend to read publications, particularly if they are too long or written in sophisticated style. Small groups on certain selected farms used to be very popular tool and Hungary plans to start to subsidizing it again.

A multiple approach is also taken in Ireland. The FAS advisors receive training on specific days (3 to date since 2007) and it is hoped that farmers will use these advisors to assist them. A national database of all advisors – private and public - is published. Booklets on the EU Nitrates Directive and other GAEC publications are sent directly to every farmer in Ireland. However, in Ireland 99% of farmers do not actively seek assistance on their own accord from their advisor for CC measures as currently the farmer cannot afford such advice and does not receive funding to employ a
professional advisor. Furthermore, the advisor does not receive funding to administer the advice to farmers and no targets are set for the advisors to achieve and receive remuneration in return. Currently the biggest obstacle in Ireland is that farm incomes are in a seriously depressed state. If funding to support farmers to employ an advisor was implemented, then CC measures could be achievable, and if funding was available in the method currently operated in some other MS, then the ‘one to one’ method would be the best option to ensure results.

In ECSFDI (UK) the mix of different types of methods are tailored to what works best in a particular catchment area. Some farmers will respond better to workshops and group sessions whilst others will prefer one to one advice. Delivery usually follows this process:

1. The farmer is sent a newsletter telling them about ECSFDI and why their catchment area is being targeted (by presenting the evidence for dwpa)

2. The farmer is sent an invitation to a group workshop to learn more about what ECSFDI has to offer, or to give information on a particular issue such as nutrient, manure or soil management.

3. The farmer attends the workshop. At the workshop they may be offered a further one to one farm visit to address the specific issues on their farm.

4. If the farmer does not attend the workshop, the Catchment Sensitive Farming Officer (CSFO) may call the farmer on the telephone and offer to visit them to talk about what they might do to reduce dwpa on their farm.

5. CSFOs will also use other methods to engage farmers, most importantly working with stakeholders and partners and using their contacts with farmers to convey ECSFDI messages.

8 Ways to increase efficiency of advice and reduce costs

As mentioned earlier, farm advice can cover several issues ranging from business in general and specific environmental issues focussing on legal requirements as well as on voluntary initiatives. In many cases, several institutions are also involved in advice and information. Therefore, an integrated approach needs to address three levels:

1. The combination of different methods and tools. According to the discussions in the FAS workshop, experiences from several Member States show that the best way to inform farmers and ensure that they take it on board is by way of ‘one to one’ advice. Other approaches such as letters, leaflets and explanatory booklets are not read or understood by most farmers. Leaflets, etc are useful as a reference point, but need to be followed up by ‘one to one’ consultations, which in turn could be followed up with small farmer group meetings.

2. In countries where different institutions are involved in the advisory system coordination, it is necessary to ensure a common approach between these institutions.
Box 11: Co-ordination Center in Estonia

The Estonian coordination center has the following responsibilities:

- development of the advisory system and service
- collecting and analyzing feedback
- communication with the research institutions
- training and in-service training of advisors
- development of advisory tools (programs, risk analyses etc)
- updating the portal for agricultural and rural information www.pikk.ee

3. Combination of different topics (e.g. environment and business advice) to set environmental issues in the context of farming activities, taking into account regional aspects, farm type etc.

Box 12: Example of a combination of different advice topics in Sweden

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Example of environmental/economic on farm calculation. An 8 hour exercise.
9 What is the motivation of farmers to participate and how to approach farmers to do so?

One farmer is not like another farmer and the motivation for a farmer to participate in advisory service activities is different. Possible reasons are:

- Environmental concerns
- Social pressures (the civil society or other farmers are forcing a farmer to participate)
- Economic reasons (cost savings due to optimized management practices)
- Compliance with legal requirements
- Social reasons (meeting with others or loyalty to their advisor)

Few studies exist that tie certain farmer and/or farm structure characteristics with decisions to participate in advice activities. However, some studies investigating farmer behaviour in general exist, often with respect to implementation of voluntary agri-environmental measures (AEMs). Conclusions and correlations from such studies can be drawn and applied to farm advice, which also relies on voluntary participation.

While farming methods are, to some extent, influenced by issues related to technical aspects of agricultural production and farm structure, personal values play an important role in decision-making.

Whatever the reasons are, it is important to know them before approaching a farmer. Farmer segmentation is, therefore, an important aspect. However, segmentation among preference / behaviour issues is not easy to make (expensive) and not available in many countries. Further, such segmentations are also not stable over time.
Box 13: Segmentation approach in the UK

The segmentation model, created by Garforth et al. (2006), has five predicted farm types based on farmers values, goals, objectives, attitudes and beliefs. Advisors are encouraged to consider the type of farmer and tailor their advice to what is most likely to motivate the best environmental response from the farmer.

![Diagram of farm types]

In the first place, farmers make use of the farm advice service offered by the FAS because they want to comply with the manure legislation. The farm advisors make use of the contacts with the farmers to raise their awareness about environmental issues.

Box 14: Building a trusting relationship first

Farmers are interested in the FAS in Flanders because advice starts with economic advice, which is of utmost importance to the farm and helps farmers to develop a trusting relation with the advisor. An important factor in this context is that advice is personalized and not general.

Hungary: In the case of a new client, the most important motives to seek for advice are: compliance with legal and/or bureaucratic requirements, lack of knowledge in special fields (like plant protection) and economic reasons. Once an advisor has proved his/her relaibility and usefulness, the most importan motive is the farmer’s loyalty to the advisor.

10 What is the best timing for the advice?

The best timing of advice is dependent on the type of farm advisory method used as well as the production system in place. However, some basic rules have to be considered:
• Advice should be offered year-round so farmers can ask and receive for advice when they think it suits them best.
• General advisory on legal or business issues, for example, should be mainly conducted in the time of less work (winter) or when new requirements have to be respected.
• Specific information / advice on certain technical measures are given when it is time to act and upon request if a “problem” occurs. Often group activities take place in the evening.

Box 15: Examples for timing of specific advice

For example, in the case of a plant protection plan, the timing of advice is in winter or early spring before farmers purchase their pesticides. Some peaks can also be detected before the submission period of some applications. Apart from this timed services, many farmers require the advisor’s help year-round.

In guiding farmers in their nutrient management, the focus is often on advice on adequate fertilisation planning. To ensure useful advice for farmers in this matter, the best time for advice is before the farmer starts fertilisation.

On arable farms advice is best received following harvest during the winter months when the farmer is least busy. This is also the best time of year to identify any soil structural problems when soils are moist and have been trafficked. On sheep farms, farmers are not available to receive advice during lambing period.

• The tool/method used also defines when the method can be used. While some of the methods mentioned in section 7 are appropriate year-round, other approaches are only successful in reaching farmers during specific seasons of the year, largely due to the amount of effort and time a farmer associates with the activity:

  o Manual, templates, maps, software tools: Addressing farmers through these approaches is suitable year-round as farmers can use manuals and templates on the farm. Updates to such tools should be made before the main sowing season in the winter to ensure proper information is transmitted to farmers.

  o Telephone help-line: Similar to manuals and computer tools, telephone help-lines are suitable year-round. If budgets are limited, however, special attention should be paid to having staff regularly available during the main growing season. Technical help-lines should also be available for during regular farm hours, i.e. early mornings.

  o One-on-one visits: Personal on-farm visits are most relevant close to or during the growing season. While such approaches take time away from a farmer’s day, one-on-one visits on the farm reduces a farmer’s perception of extra effort associated with advisory activities. Often in winter/evening; for livestock farmers all year.

  o Small group activities: Small group sessions are best offered at the start of the growing season.

  o Training courses, workshops, seminars and information meetings: Such approaches often have participation problems, and since farmers are usually very busy during
the growing season, training courses, workshops and the like can ensure higher participation if they take place outside of the growing season. Many agricultural advice centres offer courses during the winter time when farmers are more likely to have time to leave the farm.

11 Examples of Farm advice activities to address water pollution and water use by agriculture

This chapter aims to provide a summary about:

- experiences on which type of advice suits which water problems, and
- examples and approaches from the Member states – including benefits realized as a result of activities

The technical measures to reduce the pressures can be found in catalogue of measures hosted by the JRC (see latest version at http://prb-water-agri.jrc.ec.europa.eu/Prb-agri/documents/open-section)

11.1 Nutrient pollution through run-off and leaching

Nutrient pollution is one of biggest challenges in Europe. In order to address the issue in advice, it is important to know where the nutrient pollution comes from and which management activities should be addressed on the farm level. The following table provides a rough overview:

<table>
<thead>
<tr>
<th>Source of pollution</th>
<th>Crop production and fertilization</th>
<th>Livestock production</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Management activity</strong></td>
<td>• crop selection, crop rotation (consider the specific cases of wine, fruits and perennials for bioenergy)</td>
<td>• Grazing/In house</td>
</tr>
<tr>
<td></td>
<td>• soil tillage, catch crops</td>
<td>• storage (manure, sludge, intermediate use for biogas production)</td>
</tr>
<tr>
<td></td>
<td>• fertilization planning (including N-Balances)</td>
<td>• Adjust the diet</td>
</tr>
<tr>
<td></td>
<td>• spreading/application (quantity, timing, organic, mineral, positioning, technique)</td>
<td>• spreading/application (quantity, timing, organic, mineral, positioning, technique)</td>
</tr>
<tr>
<td></td>
<td>• machinery (technology, filling, cleaning)</td>
<td></td>
</tr>
</tbody>
</table>

Box 16: Nutrient advice and information in the UK
In order to reduce the nutrient loads in the UK, 50 priority catchment areas with the highest risk from diffuse water pollution, 4 national and 10 regional partnerships between different institutions with an interest in nutrient reduction have been created. The aim of these partnerships is to provide advice and tools on nutrient management that are easy to use by all farmers and can be used more widely in non-high risk areas. This should allow farmers supported by advisors to better develop nutrient plans, to increase efficiency of fertiliser and manure use, to help comply with obligations in nitrate vulnerable zones and to reduce diffuse water pollution from manures and fertilisers. In these partnerships, “Catchment Sensitive Farming” officers offer free advice to farmers using specialist contractors. At workshops and farm advice visits information on the following issues is provided:

- Soil sampling and analysis
- Nutrient Management Plans
- Manure Management Plans
- Soil Management Plans
- Fertiliser spreader/sprayer calibration
- Farm Yard Manure and slurry analysis

In addition, a specific brochure on how to make nutrient planning and recording simple and practical for farmers was developed. A website provides further information on case studies and advice, electronic farm/field record sheets, links e.g. FACTS directory, NVZ websites, training modules. Further information www.nutrientmanagement.org/

Box 17: Nutrient advice and information in Flanders

Reduction of nitrate residues in the soil during winter time will improve the quality of surface and groundwater. Therefore, the Flemish Land Agency provides guides to farmers who have parcels in nitrate risk zones where high nitrate residues are measured.

The guidance exists of a one-to-one visit on the farm during which every aspect of an effective nutrient management is evaluated. During the visit, the farm advisor tries, in collaboration with the farmer, to identify the cause of the high nitrate residues and to give the farmer advice on how to prevent these problems in the future. The following issues are covered during the farm visit:

- Optimalisation of nutrient management on livestock farms
- Fertilisation planning and follow up
- Fertilisation techniques
- Utilisation of green manures
- Use of soil analysis and fertilisation advice
- Use of manure analysis

After the farm visit, the farmer receives a report of all the aspects that were discussed along with a written copy of the advice given during the farm visit.
Box 18 Baltic Sea macro-regional nutrient reduction flagship project

“Putting best practices in agriculture into work” (Baltic DEAL) is a macro-regional project to support the EU Baltic Sea Region Strategy. In cooperation with farmers’ federations in Sweden, Denmark, Germany and Finland, Baltic DEAL aims to further improve the status of the Baltic Sea through a more efficient use of nutrients in agriculture without creating loss of competitiveness or production in the sector. The main goal is to advance and strengthen agricultural advisory services and related demonstration and information activities focusing upon improving environmental and agricultural practices. The project will be carried from 2010-2013, primarily by national key actors in the area of agricultural advisory services, under the leadership of and in close co-operation with farmers’ federations. In total, around 15-20 partners are envisaged. To achieve the project’s overall aims and goals, the following project activities are envisioned:

- Creation of a joint platform for knowledge exchange on farmer motivation
- Pilot activities that bridge the major gaps in the advisory systems with respect to agri-environmental dimensions and national networking activities
- Implementation of best practices on demonstration farms
- Results dissemination

11.2 Pesticide pollution

Pesticides still cause environmental problems in many areas and are particular a problem in drinking water catchment areas due to the very stringent limits for treated drinking water. However, pesticides are not only used in agricultural areas and the same substances may also sometimes be found in water due to non agricultural uses (e.g. urban uses). This is important as a link between FAS and non agriculture sources is useful in understanding the real source of pollution.

<table>
<thead>
<tr>
<th>Source of pollution</th>
<th>Crop production</th>
<th>Storage</th>
<th>Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management activity</td>
<td>Spraying</td>
<td>Handling</td>
<td>Disposal of product remnants</td>
</tr>
<tr>
<td></td>
<td>Equipment</td>
<td>Storage, including of unused PPPs</td>
<td>Disposal of packaging waste</td>
</tr>
</tbody>
</table>
**Box 19: Handling pesticides advice and information in different Member States**

**Cooperation model Germany.** The water industry supports specialized advisors in a specific catchment and gives technical incentives to farmers. For example, in „Haltern Stausee“, farmers are mainly animal producers, so the main focus is not on crop production. Therefore, in many cases the best available techniques and practices regarding crop protection are not used. In the cooperation with the water sector, the farmers follow the suggestions of the advisors. Over the years this approach has reduced cost of water treatments by more than 1 million €.

In a partnership project between the Flemish Environmental Agency (VMM) and the Flemish Department for Agriculture and Fisheries (DLV), information gathering round tables for farmers in all the Flemish provinces have been offered on how to prevent plant protection residues getting into the surface waters.

In 2001 the British Government accepted proposals put forward by the farming and crop protection industry to minimise the environmental impacts from pesticides. The programme (www.voluntaryinitiative.org.uk) was developed as an alternative to a pesticide tax which had been under consideration by the Government. The aim of the Voluntary Initiative for pesticides is to provide information materials for farmers and agronomists on best practice in pesticide use. Activities include farmer self assessment tools and adviser checklists; water protection booklet; farmer surveys on pesticide practice; water protection workshops; training days for pesticide training providers; articles and editorials for the farming media; other information materials including presentations, booklets and articles. ECSFDI works in partnership with the Voluntary Initiative to provide advice to farmers on pesticide best practice.

In Sweden different authorities, interest groups and companies co-operate in the information campaign „Greppa Växtskyddet – Focus on Pesticides“ with the aim to reduce pesticides in ground and surface waters and to improve the use of personal equipment when handling pesticides.

The farmers also have the possibility to receive individual on-farm advice as a part of Greppa Näringen – Focus on nutrients (see Box 23: Individual Farm advice in Sweden to reduce nutrient and pesticides in ground and surface waters).

The areas of advice include:

- Handling pesticides; storage, filling spray tanks, washing, transport
- Plant protection strategy in field
- Spraying in water protection zone
- Adjusting tree spraying equipment

11.3 Irrigation

Use of water for irrigation is mainly during the vegetation period where there is little or no rain; therefore, it contributes to increase water scarcity, especially in southern Europe.

<table>
<thead>
<tr>
<th>Source of problem</th>
<th>Crop selection</th>
<th>Irrigation technology</th>
<th>Irrigation Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management activity</td>
<td>Water needs of plants</td>
<td>Type of irrigation (e.g. sprinkler, micro)</td>
<td>Time of irrigation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type of water distribution system (e.g. open channels, pipes)</td>
<td></td>
</tr>
</tbody>
</table>

Box 20: Advice to optimize irrigation

The Institute du végétal (Arvalis, France) allows farmers to download different guidance documents dedicated to their regions and crops from their website (www.arvalisinstitutduvegetal.fr/).

These documents include:

- Advice for the positioning of soil tensiometers (Watermark®) and for the interpretation of the collected data,
• Rules for irrigation management depending, for instance, on the stage of the crop or on the soil type, and
• A field notebook to register the key stages of the crop and the amount of water provided.

11.4 Soil erosion

Soil erosion by water, wind and tillage affects both agriculture and the natural environment, for example the type of soil, slope, intensity of rain and wind. The main on-site impact is the reduction in soil quality, which results from the loss of the nutrient-rich upper layers of the soil and the reduced water-holding capacity of many eroded soils, resulting in less favourable conditions for agriculture. Water erosion’s main off-site effect is the movement of sediment and agricultural pollutants into watercourses. This can lead to the silting-up of dams, disruption of the ecosystems of lakes and contamination of drinking water.

<table>
<thead>
<tr>
<th>Source of pollution</th>
<th>Crop production</th>
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<tbody>
<tr>
<td>Management activity</td>
<td>• Crop rotation</td>
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<td>• Soil cover</td>
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</table>

Box 21: Advice to reduce soil erosion

In Ireland farmers located in soil organic matter vulnerable areas were identified by administrators. In these areas, farmers must employ an advisor to take soil samples and develop a farm plan where organic levels in the soil must be corrected. This also forms a compulsory part of GAEC regulations and farmers are informed of this requirement through publications and leaflets sent through the mail. One-on-one advice on soil erosion is given to farmers who participate in Rural Environmental Protection Schemes (REPS), otherwise it is up to the farmer to actively seek advice from either a private consultant or Teagasc\textsuperscript{12} advisor. Measure 2 of the REPS was partly aimed at protecting soil by following a specific soil management plan.

11.5 Mixed - addressing more than one issue

Water protection advice could be designed in a module which could include all aspects such as nutrients, pesticides etc. Mitigation measures as well as stakeholders involved are largely similar to those mentioned above.

Box 22: Integrated advisory services

The approach of the TEHO-Project (Finland) consists of two farm visits per farm. In the first visit, broad themed interview takes place. Farm activities are then discussed, well managed

\textsuperscript{12} Agriculture and Food Development Authority (Ireland)
environmental issues are emphasized and most urgent targets for development are specified. Farmers’ experience is utilized efficiently in developing advisory services to meet individual farmer’s needs. Before the next visit, map material based on GIS-methods and material collected from farm is prepared. This material helps to allocate water protection measures. Moreover, material related to economic issues and nutrient balance is prepared. On the next visit, development targets are discussed and recommended to the farmer. There is still a lack of knowledge on how this system work, but the first experiences seem promising. It is also unsure how control visits will be organized and what kind of supporting activities will be needed to gain good results.

The TEHO-Project arranges education for farmers and establishes “non-scientific” experiences at the farm level to provide information about good or new agricultural practices. Active sharing of information about current issues (e.g guide books and brochures) is emphasized as well.

ECSFDI (England) offers a ‘Whole Farm Appraisal’ which is used to identify what the particular issues are on a farm, whether it be nutrient, manure, soil or pesticide management. The whole farm appraisal points the farmer to further advice which is available to resolve the specific issue.

Box 23: Individual Farm advice in Sweden to reduce nutrient and pesticides in ground and surface waters

In Sweden Greppa Näringen – Focus on nutrients has developed a specific advice program for different farm types that follows a three year timetable. This advice programme includes both advice to reduce nutrients and pesticides in ground and surface water at farm level.

**Individual on-farm advice**

<table>
<thead>
<tr>
<th>Year 1 START</th>
<th>Year 3 FOLLOW-UP</th>
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<tbody>
<tr>
<td><strong>1-2 advice sessions per year</strong></td>
<td><strong>Advice themes are chosen according to the farms needs</strong></td>
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<tr>
<td>Plant/Crop Farm</td>
<td>Nutrient Balance &amp; Advice Plan</td>
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<td>Nutrient Balance &amp; Advice Plan</td>
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<td>Crop rotation</td>
<td>Inspection of Feeding plan for dairy cows / beef cattle</td>
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<td>Nitrogen strategy</td>
<td>Grass crop strategy</td>
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<td>Phosphorus strategy</td>
<td>N &amp; P strategy with manure</td>
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<td>Plant protection</td>
<td>N &amp; P strategy with manure</td>
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<td>Soil compaction</td>
<td>Constructing Wetlands</td>
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<td>Nutrient Balance &amp; Advice Plan</td>
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12 What about costs for advice and how are they covered?

12.1 Costs of the services

The total costs of the service depend mainly on the personal costs. As such, the higher number of advisory organisations within a FAS, the higher the costs.

Box 24 Costs of FAS

The ECSFDI (England) spends £2M annually on contracted advice and £1.2M funding 50 CSFO posts. On average each one to one advice visit costs approximately £600 and each workshop £1500

Focus on nutrients (Sweden) has plan or recipe for each advisory visit. There are about 20 different types of visits and they all have their own recipe. A certain amount of information is supposed to be covered depending on the specific recipe. Focus on nutrients then estimates the time required to cover the information during this particular visit. The time is then discussed with the advisors and tested during a period of time. Each visit is then allocated a number of hours. Since contracts between the government and the advisors are handled on a county-level, the amount of money paid per hour varies. Normally, the cost per hour is between 70-80 €. The total cost for the completion of one recipe is approximately 480-580 €. The total cost of the project is currently 2.2 million €/year and will be expanded to about 4 million €/year due to an expansion in area as well as intensity of advice.

12.2 Financing

What are the main sources of funding?

The financing of advice and information is organized in many different ways across the Member States:

- Earmarked charges or taxes: Earmarking is a budgeting practice that dedicates tax, charges or other revenues to a specific program or purpose. In parts of Germany and Sweden, this practice is used to pay for advice.

Box 25: Financing FAS

In several German Länder, catchment advisory services in drinking water catchments are paid for by a drinking water levy (‘Wasserpfennig’) supplementing state and – in particular in the eastern Länder- privately funded FAS.
In Sweden the financial sources come from a nitrogen tax, which covers about 30% of the project over time. The rest is financed through axis 1 of the RDP.

- European Agricultural Fund for Rural Development:
  
  - Article 21 “Vocational training and information actions” (measure 111): This measure is intended to improve the occupational skill and competence of farmers and other persons involved in agricultural and forestry activities. It finances courses that do not form part of normal programmes or systems of agricultural and forestry education at secondary or higher levels. It is designed to help farmers re-deploy production in qualitative terms, apply production practices that are compatible with the upkeep and improvement of the landscape, protect the environment, meet the applicable standards, and better manage their holdings. This measure is implemented in all 27 Member States (though not in all regional rural development plans).

  - Article 24 “Use of Advisory Services (measure 114): This measure offers financial support to farmers and forest holders to meet costs arising from the use of advisory services. Rules for Article 24 limit the eligible amount of support to a maximum of 1,500€ and 80% (a minimum of 20% of the eligible cost are borne by the farmer). The measure is used in 20 Member States and 59 rural development programmes (Belgium, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Spain and UK).

  - Article 25 “Setting up of management, relief and advisory services” (measure 115): This measure offers financial support to cover costs arising from the setting up of farm management, farm relief and farm advisory services as well as forestry advisory services. Support is digressive over a maximum period of five years from start up. Use of this measure is not as wide spread as measure 114: it is implemented in 7 Member States and 34 rural development programmes (France, Germany, Italy, Malta, Portugal, Spain and UK).

- Public funds: Rural Development Funds require co-funding from the MS.

- Membership fees: Farmers join a farmer organization and pay a membership fee. The fees are used to provide general advice services or tools.

- Charging farmers per service: This approach is often found when a service is provided by commercial institutions.

- Mixed approaches: In many cases a combination of different funding mechanisms is found, in particular in those cases where the advice is divided between private and public institutions.

Box 26: Different financing models for farm advice across the EU

In the federal state Schleswig-Holstein (Germany), there are nearly 50 advisory rings with 100 advisors and approximately 4,900 farm enterprises as members (2007). Advisory rings are
incorporated associations of farmers with similar farm enterprises or similar problems who group together to employ one or several agricultural advisors. Members pay a financial contribution to finance the system. The contribution can be based on the size of the farm or the number of animals, or the members may pay a fixed fee regardless of the size of the enterprise. Finances are supplemented by fees charged for services above a basic provision. Until 2004, the advisory rings in Schleswig-Holstein received financial support for staff and resource costs from the state budget.

In The Netherlands the system has changed since 1995 towards a privatised system where no lump-sum subsidies are provided by government. Governmental funding is only given for execution of specified projects / programs. Farmers fully pay for each service.

In Estonia and Hungary the funds come from the state and from the RDP budget.

In Slovakia the advisory system is supported through EU financing, national, non-governmental organizations and the personal sources of the users.

In Hungary 82 private advisory bodies have been selected to employ registered advisors. Advisory bodies make contracts with the farmers who pay for the service. Then farmers can apply for a reimbursement of 80% of the fee, up to the amount of 1500 EUR during the 7 years of RDP. There is no additional aid for advisory bodies or advisors.

The Austrian advice for cross compliance is subsidized by the state.

To encourage farmers to let advisors give them advice, part of the England Catchment Sensitive Farming Delivery Initiative is financed through capital grants. Approximately £5m is available every year to undertake farm improvement works to address pollutant sources. This is viewed as a considerable incentive by some farmers and thus makes them more likely to listen to the advice they are being given. Specific production advice outside the scope of the ECSFDI is paid privately by UK farmers. However, advice provided by Natural England on cross compliance and agri-environmental schemes is funded by the government and is free of charge to farmers.

If advice is outsourced by the state to “private” institution, what are the funding conditions?

As stated in chapter 5, advisory services are often split between private and public authorities. However, the source of funding often comes from public budgets and private institutions have to apply for these public funds. The award criteria can be based on:

- Qualification of the advisors
- Advisory concept and tools used
- Monitoring of the impacts

Box 27: Award criteria for subcontracting private advisory services

In Flanders each advisor from a private institution has to be acknowledged for the modules s/he advises. Different qualifications for each module are needed.

Hungary selects advisory bodies by using the following criteria: advice is only provided by registered advisors (main registration criteria: qualification (degree), work practice, no commercial interest, no
public administration, controlling commitment), sufficiently equipped office, and agricultural advisory experience.

In **Austria** organisations providing FAS are assessed according to the quantity and quality of the advisors, methods and themes that are used and how the monitoring is regulated.

No funding is allocated to private institutions in Ireland at present. Only the public advisory service is funded by the **Irish** government. No FAS funding has been distributed to either advisors or farmers.

### 12.3 Costs for the Farmer

The costs for the farmer are an important factor to ensure their participation. However, the costs differ widely across Europe as shown in the box below:

**Box 28: Costs for the farmer**

**In Estonia** farmers can apply for a subsidy of up to 80 per cent of eligible expenses for advisory services but not more than 1 500 EUR per year.

**In Netherlands, Wales and Denmark,** the support for farmers is 50% of the costs of using the advisory services under RD (measure 114: use by farmers and forest holders of farm advisory services), but in **Wales** the young farmers can apply for support of up to 80%.

**In England** free advice and information services (Natural England) also exist to improve effective land management for farmers such as farm walks, workshops and farm visits. The Organic Conversion Information Service (OCIS) is managed by Natural England and provides free-of-charge farm visits to farms converting to organic farming.

**In Latvia** the maximum rate of the support is 60% but not more than 1 000 EUR.

**In Luxembourg** farmers can apply for a subsidy to use the advisory services of up to 70% in first year and after that the subsidy decreases to 50%.

**In Slovakia** support for the farmers to help them with the costs of using advisory system is maximum 80% of the cost (max. 1500 euro).

**In Hungary** farmers are free to make an advisory contract with anyone, but they are entitled to get support only when the contract is with Regional Advisory Centres and the consultant is part of the official advisory list. To obtain the support, farmers have to provide registration numbers to the Agricultural and Rural Development Agency and the size of the farm has to be at least 2 EUME\(^\text{13}\) or 1 EUME in the case of a horticulture farm. The support is available only three times during 2007-2013. The EU refunds 80% of the costs, but long-term contracts receive only 700 euro up to a maximum of 1500€.

\(^{13}\) The total standard gross margin value of the business is expressed in EUR and every single 1200 EUR is called European Size Unit (EUME).
The FAS advice in **Flanders** can be funded through a grant of 80% with a maximum of 1,500 Euro of the costs.

In **Austria** most of the services are free.

Currently in **Ireland** the farmer must employ either a private or public advisor at their own expense. Due to depressed incomes and no FAS funding for farmers, advice is not being sought.

The **Czech** FAS is divided into 4 levels. The costs for a farmer are different for each level:

- **Level 1 - Introduction (Orientation) Consultations:** Such consultations are free of charge for users and provide (time-limited) general information on issues raised by questioners, information on supporting programmes, on terms required, or they can direct the questioners towards further professional consultations or individual advisory services.

- **Level 2 - Professional Consultations:** Professional consultations are free of charge for users. Such consultations will help the questioners, in the form of telephone, electronic or personal contacts (time-limited), obtain answers to individual, professionally oriented questions of operational character. Professional activities of scientific and research institutions may be directed also to the transfer of research findings useful for the improvement of the activities of advisors, lecturers and consultants within the MoA Advisory System, of teachers at secondary vocational schools and possibly of public administration workers. This level also includes special advisory services for animal and plant production.

- **Level 3 - Individual Advisory Services:** Advisory services with financial participation of clients (20%) provided by accredited advisors. Such services are used in cases where a commercial body needs to solve professional problems lying especially in the sphere of observing the principles of the Common Agricultural Policy, cross-compliance and good agricultural practices, and when such advisory services should be much deeper and/or more comprehensive than offered by professional consultations.

- **Level 4 – Provision of Information Through specialised Web Portals, which are free of charge.**

**13 What about “soft skills” of the advisor?**

Effective, specific transfer and implementation of environmental issues needs personal interaction at the farm level. In some countries, specific environmental advisors were installed with little success because farmers perceived them as “controllers” in competition to their trusted advisors. Therefore, it seems that a certain level of trust is required and it is dangerous to mix advice functions with control mechanisms. Building this trust requires confidentiality for the collected information and the ability to understand the needs of the farmer (“understanding and speaking the farmers’ language”).

Soft skills refer to a very diverse range of abilities such as:

- Self-awareness
- Analytical thinking
- Leadership skills
• Team-building skills
• Flexibility
• Ability to communicate effectively
• Creativity
• Problem-solving skills
• Listening skills
• Diplomacy
• Change-readiness
• Confidentiality

These skills are often considered as equally important for successful farm advice, in particular to establish a trustful relationship between the advisor and the farmer, as the advice itself. Therefore, in the trainings offered to the advisors the issue of soft skills should be highly considered. The box below provides some examples from the Member States on how this issue is addressed.

Box 29: What about soft skills?

The Flemish Ministry of Agriculture gives regulatory support by providing adequate quality criteria and monitors the qualification (certificates, training etc.) of the advisors for each module. The criteria to obtain a certification as a FAS operating body include:

• reliability built up during advisory activities in the past,
• past experience in environmental and farm management consulting,
• administrative and technical facilities, and
• staff qualification

Staff qualification has the highest relative weight.

In Hungary, apart from the registration criteria, advisors must have very good communication skills and empathy so that they can see the farmers’ situation and problems in depth. It is also important for the advisor to keep in contact with as many farmers as possible. Therefore, many of the most efficient advisors often deliver presentations at professional meetings and events and teach in-service courses.

Communication and understanding the needs of the farmer are most important. The majority of advisors in Ireland are from a farming background, which is advantageous in dealing with farmers and leads to having good practical knowledge and understanding the daily challenges of operating a farm. The biggest challenge for advisors is keeping up to date with recent technologies and developments. The administration should fund private advisors for education and training to ensure their communication and technical/knowledge skills are continuously updated. Public advisors already receive funding for these trainings. This training could include the enhancement of the ‘soft skills’ of all advisors.
According to experiences of TEHO-project (Finland), an advisor does not need to be an expert in all fields of agriculture, but s/he should know where to find information or whom to contact. Most important is that the advisor believes what s/he is doing and is able to convince farmers and create trustworthy relationships.

In England Catchment Sensitive Farming Officers (CSFOs) are offered an extensive training programme which includes communications skills, advocacy and negotiation training and technical training including fertiliser and nutrient management, in some cases FACTS training, soil and water management training and agricultural awareness training.

Contractors who deliver advice are required to have a minimum of 4 years of experience in advising farmers, and depending on the type of advice they are delivering, they may be required to have Basic Soil and Water Training or FACTS training, or any other qualifications relevant to the contract they are delivering.

**14 Monitoring and Evaluation**

Information on monitoring and control was not provided by Member States in the development of the Handbook and the FAS systems in many MS are too recently set up to have comprehensive evaluations finished yet. Detailed information on the EU as a whole can be found on the recently published DG Agriculture report on the implementation of the FAS.14

Monitoring and evaluation can focus on the following aspects of a FAS:

1. The competences of the advisor
2. The impact on the farm in terms of change of the behaviour/practices
3. The impacts on the environment
4. The efficiency of the approaches and tools used
5. The efficiency of the organisational and institutional framework

In this handbook the focus is on the first two issues.

- The competences of the advisor can be evaluated with the help of certification schemes or evaluation campaigns as used in the public education sector in many Member States. The farmer has a lot of contact with his “retail advisors / distributor, and in many cases farmers rely on their knowledge even if they do not officially act as an advisor.

- The impact on the farm in terms of change of the behaviour/practices. Here, the focus is on evaluating the impacts of advice and the following aspects should be considered:

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• Relevance: Is the advice relevant to the farmer?
• Credible: Does the farmer believe the advice to be true? Does s/he trust the source of the advice?
• Importance: Does the farmer recognise the need to adapt his/her management practices?
• Responsibility: Does the farmer believe that they ought to do something?
• Capacity: Does the farmer believe they can do something about it?
• Effectiveness: Does the farmer perceive a difference when s/he changes behaviour?
• Visibility: Is it obvious that something is being done?

In both cases, monitoring and evaluation can be carried out either by an independent organisation, the organisation in charge of the advice or by the farmers themselves. However, it is important to ensure that farmers are open to advice and that advisory and control functions are not mixed. For example, in Hungary registered advisors are not allowed (by law) to take part in controlling the work of authorities.

Box 30: Examples for evaluating FAS

In Flanders the quality of the FAS advice is evaluated subsidized by the government is evaluated based on the depth of the advice for each module and the direct on-farm applicability of the advice by the taking the following actions:

• Five percent of the farmers who apply for a FAS subsidy are controlled on the spot with regard to the number of modules applied.
• Agency for Agriculture and Fisheries, S&I (Structure and Investments) division is frequently in touch with the advisors and organizes a yearly meeting with the advisory bodies.
• Procedure for monitoring the effectiveness of FAS is done before each payment of FAS-subsidies to the farmer.
• A random sample of advice has to be sent to the Agency for Agriculture and Fisheries by each advisory service when they are asked.
• A review of the system is carried out at regular intervals and adjustments are suggested to the advisory services.

In the Czech Republic in the first and second level of its consulting system, advisory services providers must keep a list of its consultation activities, which includes numbers and topics of given questions by farmers. In the third level, the information is provided by paying agencies that receives applications for subsidy. The evaluation is mainly done by members of the National Council of Consultancy for Agriculture and Rural Development.

The ECSFDI (England) is evaluated on four levels:

1. The extent and effectiveness of farmer engagement.
2. Changes in farmer awareness and attitude.

3. Implementation of control measures to mitigate diffuse water pollution from agriculture.

4. Reductions in agricultural input losses from farmed land and infrastructure and improvements in water quality.

The first three levels should be viewed as proxy measures for the fourth - the environmental outcomes the ECSFDI is seeking to achieve.

Assessment of environmental outcomes focuses primarily on modelling. This is a logical approach given the relatively short timescales for the ECSFDI; the scale of predicted improvements; and the effect of external factors such as weather conditions, crop selection patterns and other water quality pressures. Modelling is underpinned by a water quality monitoring programme.

15 Where to find additional information?

15.1 Member States Contacts

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<th>Member State</th>
<th>Contact</th>
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<tr>
<td>Sweden</td>
<td>Focus on Nutrients Phone:+46 40 41 52 31 <a href="http://www.greppa.nu">www.greppa.nu</a></td>
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### 15.2 LINKS to useful websites

<table>
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<tr>
<th>Link</th>
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<tr>
<td><a href="http://www.topps-life.org">www.topps-life.org</a></td>
<td>Project website of a EU-Life project on Best Management Practice for the safe use of Plant Protection Products</td>
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<tr>
<td><a href="http://www.vlm.be/landtuinbouwer/s/mestbank/bedrijfsbegeleiding/Pages/default.aspx">http://www.vlm.be/landtuinbouwer/s/mestbank/bedrijfsbegeleiding/Pages/default.aspx</a></td>
<td>“Flemish Land Agency” website: description of the objective of linking single farmers, the agricultural sector and the “manure-bank”. List of contact points and formats of advisory services to sensitise farmers and to increase adherence to the manure-bank.</td>
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<td><a href="http://www.vlaanderen.be/landbouw/BAS">www.vlaanderen.be/landbouw/BAS</a></td>
<td>Agriculture and fisheries department of the Flemish authorities: description of the farm advisory system: content of the advice, subsidies available, list of recognised advisory services, regulations applicable to the farm advisory system.</td>
</tr>
<tr>
<td><a href="http://www.agrarkamara.hu">www.agrarkamara.hu</a></td>
<td>Website of the Hungarian Chamber of Agriculture in Hungary. Helps the producers to receive EU subsidies and takes part in the process of legislation.</td>
</tr>
<tr>
<td><a href="http://www.umvp.eu">www.umvp.eu</a></td>
<td>Website of New Rural Development Program in Hungary. Contains a range of information to bring together a support schemes to farmers, rural communities etc.</td>
</tr>
<tr>
<td><a href="http://www.mvh.gov.hu">www.mvh.gov.hu</a></td>
<td>The Department of Agriculture and Rural Development in Hungary. Aims to develop the countryside by providing several subsidies for farmers based on the environmental issues.</td>
</tr>
<tr>
<td><a href="http://www.lebensministerium.at">www.lebensministerium.at</a></td>
<td>Homepage of the agricultural ministry in Austria. Several studies available</td>
</tr>
<tr>
<td><a href="http://www.agrarnet.info">www.agrarnet.info</a></td>
<td>Webpage of the Austrian chamber of agriculture. Offers several links to farm advice and training activities</td>
</tr>
<tr>
<td><a href="http://www.agriculture.ie">www.agriculture.ie</a></td>
<td>Website of Dept. of Agriculture, Fisheries and Food in Ireland. Provides several services to agriculture, rural environment, food safety and fisheries.</td>
</tr>
<tr>
<td><a href="http://www.aca.ie">www.aca.ie</a></td>
<td>Website of Agriculture Consultants Association in Ireland.</td>
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<td>URL</td>
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<tr>
<td><a href="http://www.teagasc.ie">www.teagasc.ie</a></td>
<td>Website of the Agriculture and Food Development Authority in Ireland. Ensures advisory and training services to the agriculture and food industry.</td>
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<tr>
<td><a href="http://www.ymparisto.fi/teho">www.ymparisto.fi/teho</a></td>
<td>Website of the Finnish Ministry of the Environment in Finland. Provides several planning and responsible for environmental policies, the drafting of new legislation to keep the environment safe and healthy.</td>
</tr>
<tr>
<td><a href="http://www.mavi.fi/fi/index/viljelijatuet/tilaneuvonta.html">http://www.mavi.fi/fi/index/viljelijatuet/tilaneuvonta.html</a></td>
<td>Website of The Agency for Rural Affairs in Finland. Support for the farmers to obtain payments, financial and development aid in rural areas.</td>
</tr>
<tr>
<td><a href="http://www.laukutiks.lv/index.php?option=com_registracija">http://www.laukutiks.lv/index.php?option=com_registracija</a></td>
<td>Conference on agri-environmental measures and advisory services. Contains presentations from MS</td>
</tr>
</tbody>
</table>
16 Bibliography


