Guidance on a "Good Practice" RDP from a water perspective

Report Reference: UC12447.01
March 2017

RESTRICTION: This report has the following limited distribution:

External: European Commission

Any enquiries relating to this report should be referred to the Project Manager at the following address:

WRc plc,
Frankland Road, Blagrove,
Swindon, Wiltshire, SN5 8YF
Telephone: + 44 (0) 1793 865000

Website: www.wrcplc.co.uk
Follow Us:

Guidance on a "Good Practice" RDP from a water perspective

Authors:

Maria Berglund
Fresh Thoughts

Josselin Rouillard
Ecologic Institute

Thomas Dworak
Fresh Thoughts

Date: March **2017**

Report Reference: UC12447.01

Project Manager: Ian Codling

Project No.: 15955-G

Client: European Commission

Client Manager: Ian Codling

Document History

Version number	Purpose	Issued by	Quality Checks Approved by	Date
UC12447.01	Final report issued to Commission for comment.	Maria Berglund	Ian Codling	31 March 2017

Contents

List of Tables

List of Figures

List of Boxes

1. Introduction

1.1 Background

Agricultural production is one of the predominant economic activities found in rural areas across Europe. Agricultural production is reliant on its environment. It requires sufficient soil quality, water and sunshine. Modern conventional agricultural production also uses external inputs for maintaining production like irrigation systems, organic and artificial fertilisers and pesticides. The soil, water and land management practices deployed, the crops grown and the application of fertilisers and pesticides applied affects the quality, quantity and functioning of aquatic ecosystems. Irrigation infrastructure and measures to combat the flooding of agricultural land, which have contributed to improving the productivity of agriculture, have also led to morphological alterations of watercourses. Whereas the over-application of fertilizers and pesticides has increased yields, they have also deteriorated water quality and affected water dependent ecosystems. Agriculture has been identified as one of the main pressures on the water environment in terms of diffuse and point sources pollution and hydromorphological alterations and abstraction in mainly southern Member States (MS) is a serious issue affecting the current and future sustainability of agriculture[1].

However, the needs of the agriculture sector and consideration for the environment do not need to be viewed in competition with one another. Agricultural production requires an adequate supply of good quality water; therefore, it is also in the best interest of farmers to avoid causing water pollution or abstracting water beyond the recharge rate of groundwater bodies or the environmental flows of surface waters.

At the same time, the climate can exert considerable damage on agricultural production through excessive rainfall, hail, floods and droughts[2]. In recent years, flood events have had a significant impact on rural economies, including the agriculture sector[3]. It is also expected that flood events will increase in frequency and intensity in the coming years due to climate change. Flood prevention is therefore a key concern in rural areas. Natural water retention measures are considered a beneficial form of flood prevention as they work with the natural environment to retain water and reduce the impacts of flooding.

Against this back-drop, two EU directives were adopted, one to ensure good quality and quantity of water bodies, “the Water Framework Directive (WFD)”, and one to reduce and

---

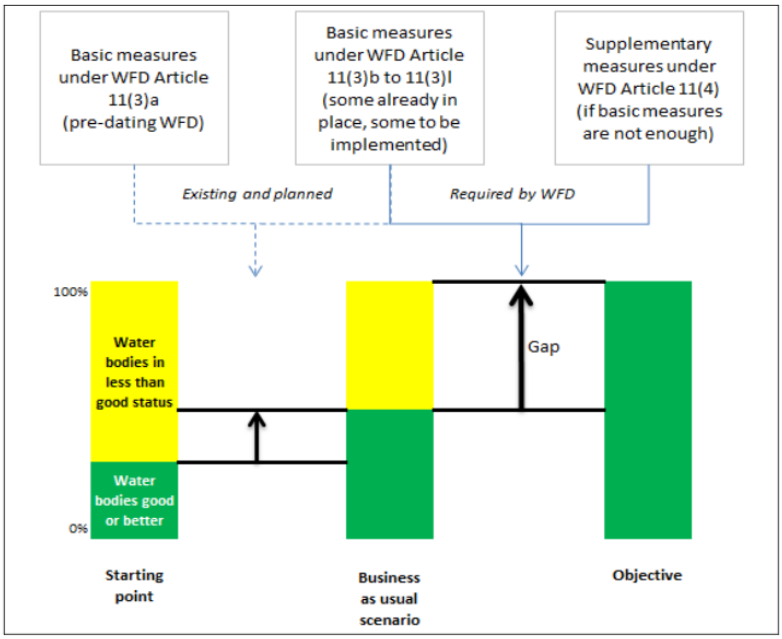
1 European Commission (2012): Commission Staff Working Document. European Overview (2/2). Accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans.

2 EEA (2012): Climate change, impacts and vulnerability in Europe 2012, An indicator - based report.

3 EEA (2011): Mapping the impacts of natural hazards and technological accidents in Europe.

manage the risks of floods, “The Floods Directive (FD)”. The WFD entered into force in 2000, and MS had to produce river basin management plans (RBMPs) and programmes of measures (PoMs) in line with the directive. The RBMPs and PoMs were first developed from 2009-2015; now they are in their second cycle of implementation from 2016-2021. Within the programme of measure, the WFD relies on a number of “basic” measures required by existing EU legislation to be implemented in all river basins. Article 11.3.b-h of the WFD defines basic measures. MS not only have to implement the existing directives, for example the Nitrates Directive, but they should also fill the gaps left from this legislation with additional controls on abstraction, diffuse pollution (phosphate) and morphological alterations. The WFD also foresees the possibility for “supplementary measures” (Art.11(4)) going beyond basic measures, where necessary, to fully address significant pressures and achieve the WFD’s environmental objectives. The figure below shows the relationships between the different types of measures.

Figure 1-1 Simplified illustration of a process to identify and fill in the gap between business as usual and the 2015 objective of good water status



The assessment of the 1st river basin management cycle[4] highlighted that gaps still remain in these measures (i.e. they do not address all pressures or not at the scale necessary to secure good status). In addition, there was a high reliance on legislation predating the WFD (without amending them to ensure the more ambitious objectives of the WFD can be reached) and voluntary measures in the RDPs (where there is uncertainty over whether the measures will be taken up and if they will deliver the necessary improvements).

[4] ibid

The FD creates a common approach for Member States to identify, evaluate and address flood risk. MS are required to define flood risk management objectives, including the reduction of potential adverse consequences of floods (FD Art. 7) and, if appropriate, focus on non-structural measures and/or on the reduction of the likelihood of flooding. These objectives should define the strategy for the development of flood risk management plans (FRMPs). The FRMPs, which were required by the end of 2015 for the period 2016-2021, should include measures to reduce flood risk in areas identified of having significant risk of flooding. Article 4 (FD) on the FRMPs states that the plans may also promote the improvement of water retention. Non-structural measures, as emphasized in Art. 7 focus on reducing the likelihood of flooding and include natural water retention measures (NWRMs). The note from DG Environment on "Better environmental options for Flood risk management"[5] highlights that such measures can be very cost-effective and generate multiple benefits in terms of flood prevention as well as improving good ecological status within catchment areas. The Blueprint[6] furthermore emphasizes the importance of NWRMs to achieve objectives of both the WFD and FD and the need to finance such measures in light of their multi-objective benefits.

Both implementation of the WFD and the FD requires not only a strong cooperation with other environmental legislation but also the implementation of measures to achieve their objectives. However, neither directive has its own financing but rather relies on a combination of national financing and use of European funds – principally the European Agriculture Fund for Rural Development (EAFRD) and the Cohesion Fund – to implement measures. The measures included in the Rural Development Programmes (RDPs) play a significant role in the implementation of the WFD, as many MS have chosen to rely almost exclusively on rural development programmes (RDPs) to deliver supplementary measures to address pressures from agriculture[7]. The Blueprint in 2012 emphasized that natural water retention measures to support the WFD and the FD should become a priority for financing under the CAP and other EU funds[8].

---

5 European Commission (2011): Note by DG Environment. Subject: Towards Better Environmental Options for Flood risk management. http://ec.europa.eu/environment/water/flood_risk/pdf/Note%20-%20Better%20environmental%20options.pdf

6 European Commission (2012): Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions. A Blueprint to Safeguard Europe's Water Resources. SWD (2012) 381 final. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0673&from=EN

7 European Commission (2015): Communication from the Commission to the European Parliament and the Council. The Water Framework Directive and the Floods Directive: Actions towards the 'good status' of EU water and to reduce flood risk. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0120&from=EN

8 European Commission (2012): Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions. A Blueprint to Safeguard Europe's Water Resources. SWD (2012) 381 final. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0673&from=EN, p.14.

Rural development programmes are now in their third programming period (2014-2020). The RDPs have always included an emphasis on preserving/improving the environment, but in the past it has been less clear to the MS how the RPDs can be used to address water and flood objectives. An assessment of the second RDPs[9] (2007-2013) found that the budgetary emphasis of many MS emphasized improving the competitiveness of the agriculture sector and did not finance water management measures. Moreover, the EAFRD for the 2007-2013 period did not require adequate environmental safeguards to ensure water quantity is not affected.

Since the second programming period, the EAFRD regulation and the RDPs have made significant strides in better integrating water management issues. Prior to the third programming cycle, within the WFD Common Implementation Strategy an exchange of practices between Member States allowed for identifying how different articles in the EAFRD and corresponding measures within the RDPs could offer opportunities to address water management issues. An assessment of the draft 2014-2020 RDPs showed that water management issues were included significantly more frequently in the programmes than in the past, but that MS could still benefit from further ideas on how to better incorporate existing information and stated intentions from the RBMPs into the RDPs. The assessment of the draft programmes also highlighted that while there were some good examples on incorporating measures to implement the Floods Directive, further ideas on how this could be done could help with the uptake of such measures by more MS/Regions.

1.2 Aim of the Guidance

It is important to note that the decisions on priorities, emphasis on focus areas, etc. within a RDP are up to the MS to decide (in line with existing legal requirements). This guidance document aims to provide information to MS that could help optimise the way in which water management issues are addressed within their RDPs.

This document focuses on the key chapters where water issues can be best integrated within the RDP, namely:

- Chapter 4 “SWOT and Identification of needs”. This chapter provides an overview of the state of the environment of the programme’s rural territory, including information on context indicators, and defines the strengths (S), weaknesses (W), opportunities (O) and threats (T) – SWOT – of the programme. In addition, the chapter presents needs assessments.

- Chapter 5 “Description of the Strategy” details the overall strategy of the programme. It also defines the individual strategies of the Union priorities for rural development, as set

[9] Dworak *et al,* (2009): WFD and Agriculture Linkages at the EU Level. Summary report on an in-depth assessment of RD-programmes 2007-2013 as regards water management.

out under Article 5 of the EAFRD, including a description of the strategies for each focus areas under each Priority.

- Chapter 6 “Assessment of ex ante conditionalities”. Ex ante conditionalities are criteria that MS have to fulfil in order to be able to be financed for certain operations in the rural development programmes.

- Chapter 8 “Description of the measures”, which includes information on what will be financed and how the measure is designed.

- Chapter 9 “The Evaluation Plan”, which describes the monitoring and evaluation arrangements for the RDP and the actors included.

- Chapter 11 “The Indicator Plan”, which describes the planned outputs of the measures selected to address the RDP’s priorities (i.e. the focus areas).

1.3 Structure of the Guidance

Each chapter follows the same structure. In the introduction to each chapter of this guidance, the requirements according to the EAFRD and the implementing regulation are presented. The content of the national or regional rural development programmes is governed by Commission Implementing Regulation No 808/2014 laying down rules for the application of Regulation (EU) No 1305/2013 on support for rural development by the European Agriculture Fund for Rural Development. Annex 1 of this regulation defines the structure of the RDPs, which are uniform for all MS and their regions. For each relevant chapter in the RDP (see above), the requirements according to Annex 1 will be presented in a grey box.

Then, guidance is provided regarding how to optimally develop the chapter to reflect water management issues in the most integrated way. This “guidance” is complemented by real examples from the MS/Region RDPs from 2014-2020 showing how water management was well integrated into the chapter.

1.4 Guiding principles

The degree to which RDPs can contribute to achieving the WFD and FD objectives depends on:

- How well the overall description of the programming area in the SWOT sufficiently describes the state of the water environment and that the description is aligned with the

agricultural pressures[10] identified under the WFD, including a description of flooding pressures;

- How well defined the WFD objectives – and also objectives of the EU Floods Directive (FD) - are in the needs, objectives and strategy of the programme;

- Well-designed strategies for the water-related focus areas: Focus area 3b on "Risk Management"; Focus area 4b on "improving water management, including fertiliser and pesticide management" and Focus area 5a on "increasing efficiency in water use by agriculture." The strategies would rely principally on measures with direct impacts on water and flood management, but could also include measures with indirect effects and would take a multi-pronged[11] approach to addressing pressures that would address all the pressures identified in the SWOT;

- All ex-ante conditionalities related to water management being met;

- Well-designed measures that have a clear baseline, are clearly targeted to priority areas/issues identified under the WFD and FD, are not paying for normal agriculture practices and will not negatively impact water or flood management (i.e. prioritize the adoption of NWRMs over hard flood defence);

- Context and impact indicators that will allow a sufficient assessment of the effectiveness of water measures under the RDP and linking monitoring activities under the WFD and are capable of measuring the evolution of pressures placed on water by agriculture practices; and

- Ambitious target indicators and budget allocation indicating a solid commitment to ensuring a sufficient percentage of agricultural land is under water-related measures so that WFD objectives can be achieved.

[10] Article 5 of the WFD requires MS to publish reports on the characteristics of the river basin district including a review of the impact of human activities on the status of surface and groundwater bodies.

[11] E.g. for water abstraction pressures, financing both demand side measures to reduce the need for water use (like drought resistant crops) and supply side measures to increase water efficiency to reduce water consumption of irrigation systems.

2. SWOT and Identification of Needs

2.1 What is required

The EAFRD requires that a rural development programme includes a SWOT analysis of the situation and an identification of the needs that have to be addressed within the programme. According to Article 8 (b), the analysis should be structured around the Union priorities for rural development. Specific needs concerning the environment, climate change mitigation and adaptation and innovation should be assessed across Union priorities for rural development.

Box 2-1 Requirement of the contents of Chapter 4 "SWOT" according to Annex 1 of Regulation 808/2014

Chapter 4 on Strengths, weaknesses, opportunities and threats ('SWOT') and identification of needs must include the following:

a) SWOT analysis containing the following sections:

(i) comprehensive overall description of the current situation of the programming area, based on common and programme-specific context indicators and other qualitative up-to-date information;

(ii) strengths identified in the programming area;

(iii) weaknesses identified in the programming area;

(iv) opportunities identified in the programming area;

(v) threats identified in the programming area;

(vi) structured table containing the data for the common and programme-specific context indicators.

(b) Needs assessment, based on evidence from the SWOT analysis, for each Union priority for rural development (hereafter 'priority') and focus area and the three cross-cutting objectives (environment, including the specific needs of Natura 2000 areas, climate change mitigation and adaptation, innovation).

Annex IV of Regulation 808/2014 provides a common set of context indicators. Those relating to water management are:

- C39: Water abstraction in agriculture;
- C40: Water quality;
- C41: Soil organic matter in arable land; and,
- C42: Soil erosion by water.

2.2 Guidance

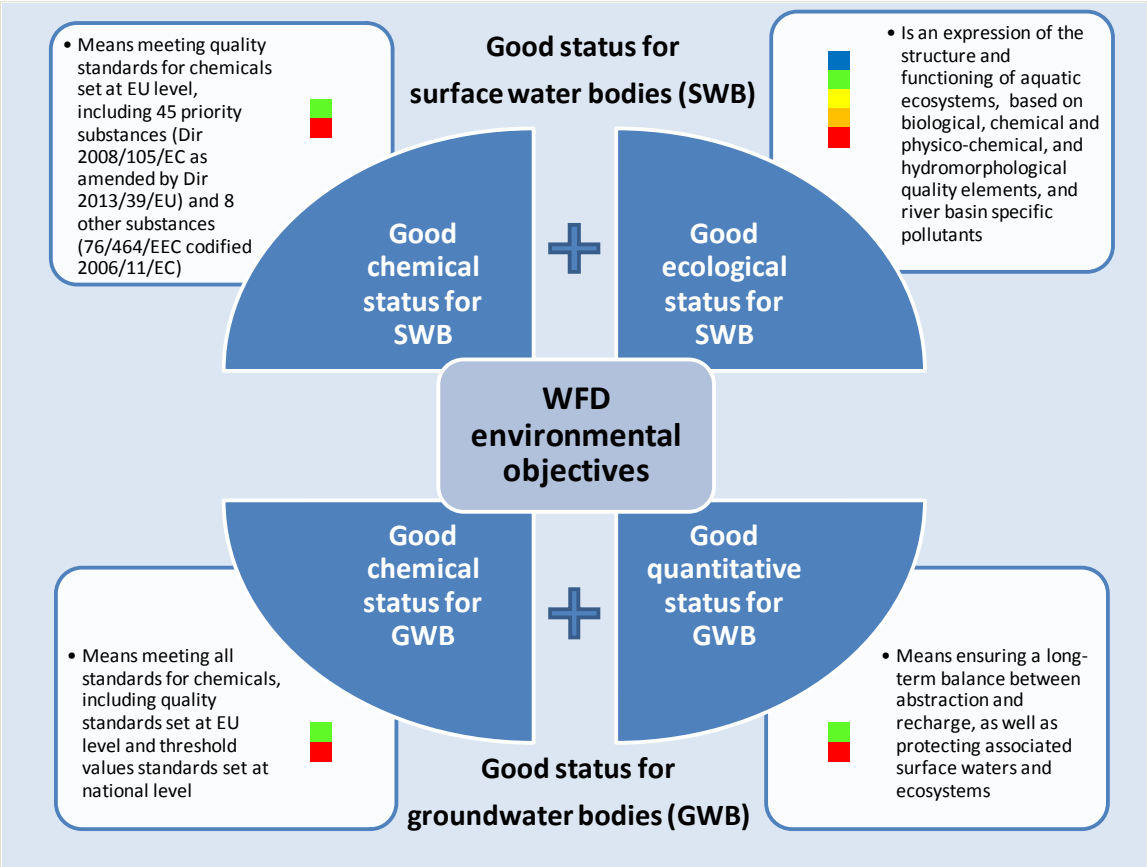
The chapter on the SWOT is one of the most important elements of the RDP, as it is the starting point of the programme's intervention logic. If the overall description of the current situation of the water environment only provides a limited overview or is missing key information, it will be difficult to properly identify needs for the programme and therefore it will also be difficult to define a clear strategy and select measures to address water management issues in the geographic territory.

2.2.1 Overall description of the current situation of the programme area

From a water management perspective, the overall description of the current situation of the programme would, at a minimum provide, a clear statement of the number and percentage of water bodies failing good ecological status/potential, good chemical status and good quantitative status. While the SWOT analysis may report on the number or percentage of water bodies where threshold values for nitrogen or other inputs (e.g. pesticides) have exceeded legislative standards, a good practice SWOT would relate this information to "good ecological status" and "good chemical status" of surface waters and "good chemical status" and "good quantitative status" of groundwater according to the WFD.

Ecological status relates to the status of biological, physico-chemical and hydro-morphological quality elements. Chemical status specifically relates to status in relation to priority substances, such as mercury and several types of pesticides and heavy metals, which are not considered in the evaluation of good ecological status of WBs. The figure below shows the requirements for the different environmental objectives.

Figure 2-1 Environmental objectives of the WFD



The information in the SWOT would be based on the most up-to-date information, taking advantage of the characterisation and pressures assessment under the WFD (Art. 5 WFD). For effective planning, it would be important to ensure there is a reliable assessment of water sources (water balance) and that there are no water bodies in unknown status. Most importantly, the information on water body status would be for the programme's territory only.

In addition to providing data on water body status, the SWOT would provide clear, quantified (where possible) information on the main agriculture pressures affecting water bodies. The pressures included in the SWOT would be aligned with the pressures found in the analysis of the relevant RBMPs.

Table 2-1 Water-relevant Information beneficial to include in the SWOT

Reasons for failure	Causes
Diffuse pollution	• Nitrogen load exceeding threshold values • Phosphorus load exceeding threshold values • Pesticides load exceeding threshold values • Sediment
Point source pollution	• Nitrogen load • Phosphorus load • Pesticides
Morphological alterations	• Dredging • Bed and bank reinforcement • River straightening • River realignment (removal of meanders) • Culverting • Flow manipulation • Impounding (through dams, weirs)
Water abstraction	• Total water abstracted in million m^3/year • Percentage of overall water use • Level of efficiency of irrigation systems – x% of drip irrigation, x% of sprinkler systems, etc.

To allow for the development of specific measures targeting the main pressures from agriculture, agricultural activities would be directly linked to the different pressures, e.g. large-scale livestock farming causing point source pollution due to insufficient manure storage facilities or irrigation reservoirs negatively affected the morphology of a river.

In addition to providing information regarding agriculture pressures on the water environment, the SWOT would also provide information regarding the frequency and severity of water scarcity, droughts and floods. This information is important for understanding all pressures being faced in the programme's rural territory and to be able to design multi-beneficial measures.

Box 2-2 Inclusion of water information in the SWOT

North Rhine-Westphalia (NRW), Germany

The SWOT in this RDP provides up to date information (using the latest WFD Art. 5 assessment) on the status of water bodies in NRW. The pressures identified in the RBMPs are reflected fully in the pressure analysis in the SWOT, including morphological pressures associated with past agricultural drainage activities. Soil erosion from water is additionally mentioned as a pressure affecting 11.7% of arable land in the territory.

It is specified that good ecological status has not been achieved in 67% of surface water bodies (SWBs) due to diffuse pollution, mainly from phosphorus. Pesticide pollution is less of an issue for medium to large SWBs, it can however be a problem for small SWBs. Poor ecological and chemical status of most SWBs is linked to morphological pressures from transverse structures and drainage (84% of SWB length), diffuse pollution (65% of SWB length) and point source pollution from agriculture and other sources (70% of SWB length). The SWOT clearly states that agriculture is the biggest driver of water pressures in NRW and goes into detail on contributing activities to the pressures, e.g. the main pressure linked to agriculture is diffuse nutrient pollution, arising from liquid manure (from livestock farming) and bioproducts from biogas and contribution also from arable land and horticulture in the area. Relevant information from the Nitrates Directive is also presented, which sets out a quite complete picture of the scale of the issue to be addressed.

About 1/3 of groundwater bodies (GWBs), covering 32% of the territory, are failing good chemical status due to nitrates.

The specificity of this SWOT, which is based on the same data as the most current (2013) Article 5 assessments under the WFD, guarantees the same baseline is used. Such a common baseline allows for programming measures that address the different sources of agricultural pressures and hydromorphological alterations.

2.2.2 Strengths, Weaknesses, Opportunities and Threats section

Based on the general description of the programme area, each RDP must define the strengths, weaknesses, opportunities and threats[12]:

- Strengths: characteristics that give the territory an advantage
- Weaknesses: characteristics that give the territory a disadvantage

[12] Annex 1 of Regulation 808/2014.

- Opportunities: elements in the environment that the RDP could exploit to its advantage
- Threats: elements in the environment that could prevent the RDP from achieving environmental objectives.

In a good practice RDP, all water-related pressures identified in the SWOT would be turned into weaknesses or continued threats, unless being adequately addressed through another mechanism (i.e. programme). It would be positive for MS to identify in this section the potential opportunities that the implementation of the WFD or the FD would bring. In addition, the individual strengths, weaknesses, opportunities and threats would ideally use WFD terminology, i.e. referencing the achievement of good status.

Box 2-3 Water-related strengths, weakness, opportunities and threats

Hungary

Strengths related to water include: substantial water resources and environmental friendly farming methods.

Weaknesses include out-dated/not used irrigation systems and inappropriate land use due to a lack of water and nutrient management, erosion, excess water inundation and lack of riparian zone contributing to the unfavourable ecological and chemical status of surface water bodies.

Opportunities include the emerging demand for improving climate resilience, appreciation of the water supply; dissemination of up-to-date water management methods (water retention and irrigation), irrigation modernisation and better integration of EU policies to improve water protection.

Identified threats include climate change accelerating, extreme weather events spiralling, deterioration of surface and ground water bodies already in worse than good status, or the preservation of the present less-than-good status in default of government measures.

The example in the box above highlights a comprehensive integration of water-related issues. It is good practice that the Hungarian example points out the opportunities that the RDP offers for the better integration of EU policies to improve water protection. The detailed identification of water-related strengths, weaknesses, opportunities and threats facilitates planning for issues that go beyond the planning cycle of an RDP.

2.2.3 Common Context indicators

A key part of the SWOT is the table on common context indicators. These context indicators provide the quantitative information for the general description of the programme's territory.

To properly account for the state of the environment, it is important to use recent data that gives a more complete picture on the health and functioning of the water environment. The common context indictors do not yet provide a complete picture of the water environment, as they do not provide information on pesticide pollution, morphological alterations, water scarcity or droughts, flooding or status of water bodies.

MS are free to develop programme specific context indicators that go beyond the common context indicators. Here, there is an opportunity to introduce indicators that could better track aspects important for securing a healthy water environment and flood protection which are also highly relevant for ensuring sustainable agriculture and rural development. To improve the depiction of the water environment within the context indicators, MS should consider including an:

- Indicator to track water imbalance (i.e. abstraction vs. recharge);
- Indicator to track pesticide pollution;
- Indicator to track morphological alterations; and,
- Indicator to track improvements in the status of SWBs and GWBS – linking to the RBMPs. This information is readily available in the RBMPs (progress expected by 2021 and 2027 is already provided in the RBMP) and would not require additional administrative burden.

Article 5 of the WFD requires MS to assess the characteristics of each river basin district, including a review of the impact of human activity on the status of surface waters and on groundwater. Non-binding reporting guidance[13] under the WFD suggests a list of indicators to assess the scale of the pressures. The information reported under the WFD could be used to supplement the context indicators in the SWOT to provide a comprehensive picture of the state of the water environment in the programme's territory. No additional administrative burden would be required as this information is already collected.

[13] European Commission (2015): WFD Reporting Guidance 2016.

Table 2-2 Indicators for pressures under the WFD that could complement context indicators[14]

Pressure	Context indicator under CMEF[15]	Pressure indicators under the WFD
Water abstraction by agriculture	• C39: Water abstraction in agriculture The indicator used is the volume of water which is applied to soil for irrigation at farm level.	• PV02 – Volume (million m^3 per year) of water abstracted/diverted for agriculture to be reduced to achieve objectives • PA04 – Area (km^2) of groundwater bodies not achieving objectives because of alteration of water levels/volumes • PN11 – Number of farms not covered by advisory services
Water quality (nutrient and pesticide pollution)	• C40 Water quality The water quality indicators focus on pollution by nitrates and phosphates, which are assessed through main indicators: gross nutrient balance and nitrates in freshwater.	• PE02 – Load (tonne per year) of nitrogen to be reduced to achieve objectives (originating from agriculture sources where this has been determined) • PE03 – Load (tonne per year) of phosphorus to be reduced to achieve Objectives (originating from agriculture sources where this has been determined) • PE04 – Load (tonne per year) of sediment to be reduced to achieve objectives (originating from agriculture sources where this has been determined) • PN20 – Number of water bodies failing EQS for pesticides originating from diffuse agricultural source • PN11 – Number of farms not covered by advisory services

[14] In accordance with Annex 8p of the WFD Reporting Guidance 2016.

[15] See individual context fiches for more information: European Commission (2016): CAP Context Indicators 2014-2020. https://ec.europa.eu/agriculture/sites/agriculture/files/cap-indicators/context/2016/indicator-table_en.pdf

Pressure	Context indicator under CMEF[15]	Pressure indicators under the WFD
Morphological alterations linked to agriculture activities	No indicator included in the CMEF	• PN06 – Number of dams/weirs/ barriers and locks associated with irrigation that have conditions not compatible with the achievement of objectives • PN11– Number of farms not covered by advisory services • PA07–Area (km^2) of water bodies where hydromorphological alterations for agricultural purposes are preventing the achievement of objectives
Morphological alterations linked to flood risk prevention	No indicator included in the CMEF	• PN03 – Number of dams/weirs/ barriers and locks associated with flood protection that have conditions not compatible with the achievement of objectives • PL02 – Length (km) of water bodies where hydromorphological alterations for agricultural purposes are preventing the achievement of objectives • PL04 – Length (km) of water bodies where hydromorphological alterations for flood protection are preventing the achievement of objectives

2.2.4 Needs assessment

Following the assessment in the SWOT, all the main pressures identified would be turned into needs. Pressures identified would not be omitted, unless they were clearly being addressed via an alternative mechanism and the RDP was not anticipated to address them. Each need would be linked to a focus area, and the need descriptions would be very specific about what the link is to the focus area, e.g. reducing agricultural nutrient losses by x tonnes to ensure all waters reach good status, reducing agricultural abstraction by x m^3 to ensure all groundwaters are restored to good quantitative status (rather than having a general need to contribute to water management).

Box 2-4 Full coverage of pressures with needs

Austria

According to the SWOT, the main pressures linked to agriculture are diffuse nutrient pollution, soil erosion due to intensive agriculture in areas with low rainfall and areas with intensive livestock. Water abstraction is only mentioned as a potential future pressure due to climate change. Hydromorphological pressures are also identified in the SWOT but they are not attributed to agricultural activity/land use. Flooding is also identified as a risk in the SWOT as well.

Significant impact of agricultural activity (nutrients, pesticides) is a main weakness affecting water status. The high nutrient loads are also contributing to not meeting good status and good environmental status on the Back and North Sea. A further weakness is the low level of data of pesticide use in agriculture. In addition, hydromorphological pressures in rural areas are also significant.

The following needs have been linked to Focus area 4b (Improving water management, including fertiliser and pesticide management): i) Increase information on natural hazards, ii) securing an improvement of the water status and water cycle in agricultural and forest ecosystems, iii) reduction and prevention of phosphorus emissions in surface and groundwater bodies, iv) reduction and prevention of nitrate emissions in surface and groundwater bodies, v) reduction and prevention of pesticides in surface and groundwater bodies, vi) reduction and prevention of erosion and protection of permanent pasture, vii) prevention of natural hazards, viii) securing of forest protection and rebuilding after natural hazards, ix) Efficient irrigation in the case of droughts, and x) reduction of ammonia emissions.

The example above clearly demonstrates how the aspects from the SWOT are turned into specifically defined needs, which are in turn later translated into measures.

3. Description of the Strategy

3.1 What is required

The objectives of the EAFRD are to contribute to the Europe 2020 Strategy by promoting sustainable rural development. One of the three objectives of the rural development is "*ensuring the sustainable management of natural resources and climate action*". To this end, Article 5 of the EAFRD has defined 6 priorities to help achieve the objectives of rural development. Each priority is further broken down into focus areas. Within the priorities for rural development, there are three focus areas linked to water management:

- Focus area 3b: Supporting farm risk prevention and management;
- Focus area 4b: Improving water management, including fertiliser and pesticide management; and,
- Focus area 5a: Increasing efficiency in water use by agriculture.

The EAFRD requires that a rural development programme implement a strategy to meet the Union priorities and its focus area (Article 6). The description of the strategy needs to demonstrate that (Article 8 (c):

i) appropriate targets are set for each of the focus areas of the Union priorities for rural development included in the programme, based on the common indicators referred to in Article 69 and, where necessary, on programme specific indicators;

ii) relevant combinations of measures are selected in relation to each of the focus areas of the Union priorities for rural development included in the programme, based on a sound intervention logic supported by the ex-ante evaluation referred to in point (a) and the analysis referred to in point (b);

iii) the allocation of financial resources to the measures of the programme is justified and adequate to achieve the targets set;

iv) specific needs linked with specific conditions at regional or sub-regional level are taken into account and concretely addressed through adequately designed combinations of measures or thematic sub- programmes;

v) an appropriate approach towards innovation with a view to achieving the Union priorities for rural development, including the EIP for agricultural productivity and sustainability, towards the environment, including the specific needs of Natura 2000

areas, and towards climate change mitigation and adaptation is integrated into the programme; and

vi) measures have been taken to ensure the availability of sufficient advisory capacity on the regulatory requirements and on actions related to innovation.

Box 3-1 Requirement of the contents of Chapter 5 "Description of the Strategy" according to Annex 1 of Regulation 808/2014

Chapter 5 on description of the Strategy must include:

(a) A justification of the needs selected to be addressed by the RDP and the choice of objectives, priorities, focus areas and the target setting based on evidence from the SWOT and the needs assessment. Where relevant, a justification of thematic sub-programmes included in the programme. The justification shall in particular demonstrate the fulfilment of the requirements referred to in Article 8(1)(c)(i) and (iv) of Regulation (EU) No 1305/2013.

(b) The combination and justification of the rural development measures for each focus area including the justification of the financial allocations to the measures and the adequacy of the financial resources with the targets set, as referred to in Article 8(1)(c)(ii) and (iii) of Regulation (EU) No 1305/2013. The combination of measures included in the intervention logic shall be based on the evidence from the SWOT analysis and justification and prioritisation of needs referred to in point (a) EN 31.7.2014 Official Journal of the European Union L 227/25.

(c) A description of how the cross-cutting objectives will be addressed, including the specific requirements referred to in Article 8(1)(c)(v) of Regulation (EU) No 1305/2013.

(d) A summary table of the intervention logic showing the priorities and focus areas selected for the RDP, the quantified targets, and the combination of measures to be used to achieve them, including the planned expenditure. The summary table shall be automatically generated from the information provided in point 5(b) and point 11, using the characteristics of the electronic data exchange system ('SFC2014') referred to in Article 4(a) and (b) of Commission Implementing Regulation (EU) No 184/2014 (1).

(e) A description of the advisory capacity to ensure adequate advice and support for the regulatory requirements and for actions related to innovation to demonstrate the measures taken as required in Article 8(1)(c)(vi) of Regulation (EU) No 1305/2013.

3.2 Guidance

The Strategy in the RDP contains two separate sections, one focuses on the strategy for the RDP as a whole and the other describes the strategies for each focus area.

3.2.1 Overall Strategy

As defined in Annex 1 of the Implementation Regulation, the first part of chapter 5 of the RDP presents the overall strategy of the programme, providing information on the needs selected to be addressed by the RDP, and the choice of objectives, priorities, focus areas and the target setting would be based on evidence from the SWOT and the needs assessment. Here, it would be important to include information justifying the programme's overall logic for addressing not only the environment in general but water management and flood issues specifically.

Such a summary would recall the main water-related needs defined in the previous chapter and relate this back to helping implementation of the WFD and FD. It would be briefly clarified whether other national or regional programmes will tackle certain water management or flood issues outside the RDP programme in rural areas. While this step is not required by the EAFRD, it would allow for understanding the role of the RDP amongst other national programmes/regulations to overall deliver EU objectives, and it would facilitate presenting a complete picture on how pressures in rural areas are being addressed, thus promoting transparency. Such information would also help for understanding the target setting within the programme, e.g. if the target for measures to improve water management appear low given the pressures analysis in the SWOT, it could be explained that other national measures are expected to play a bigger role.

To this end, the overall strategy would ideally provide a water specific summary containing the following information:

- How the identified needs link back to the objectives of the WFD and FD;
- How the programme's overall strategy to tackle pollution, morphology and abstraction problems will contribute to improving x% of water bodies to achieve WFD status (including the timeframe), as well as how the programme's strategy will address catchment flood management objectives of the FD; and,
- Whether certain objectives will be addressed through other national/regional programmes.

3.2.2 Strategy for each Focus area

To recall, there are three focus areas linked to water management: Focus area 3b: Supporting farm risk prevention and management; Focus area 4b: Improving water management, including fertiliser and pesticide management; and Focus area 5a: Increasing efficiency in water use by agriculture.

Focus area 3b can be used to finance measures addressing flood risks, e.g. natural water retention measures (for an example see Box 5-16). In a good practice RDP, Focus area 4b

would not only target fertiliser and pesticide management but would also include references to morphological alterations. Morphological alterations could be linked to agricultural activities or be due to flood defence measures within the rural territory. Focus area 5a can be used for the modernisation of irrigation systems, leading to water savings, to promote the planting of drought resistant crops or dry cropping to reduce water use at farm level.

Whereas chapter 5 should provide a holistic view of the overall strategy regarding the approach to water management issues, the individual focus areas should be more specific in linking the needs and the measures selected. To recall, Annex 1 of the Implementing Regulation requires the RDPs to present a justification of the rural development measures for each focus area. The combination of measures included in the intervention logic should be based on the evidence from the SWOT analysis and the justification and prioritisation of needs. As the Commission's reporting template for the RDP only enables selection of measures at priority level and does not include the function to select specific measures for each focus area, it is important that the focus area clearly states which measures have been designed specifically to address each focus area directly and indirectly. Where measures have multiple sub-measures (e.g. M4 on investments in physical assets or M10), the description should describe how each sub-measure will contribute to addressing water-related pressures and the needs selected. Importantly, the description of each focus area should provide clear justification of the set target indicators consistent with the pressures and needs analysis.

Such detailed information on what pressures the measures target and to what extent would be considered good practice as it would show a clear link between the evidence base of the SWOT, needs selected and mechanisms, i.e. the measures, chosen. This information would not only help agricultural authorities, together with their water colleagues, to better understand themselves the links between pressures, needs and measures, it would also provide clear information to water stakeholders and authorities in the territory what the RDP is planning to deliver in terms of environmental improvements. Such an approach allows water authorities to better understand the remaining gap in agriculture pressures (not tackled by the RDP) affecting good status of water bodies and what would need to be achieved through other national/regional programmes. The following table presents an overview of what information could be included for each focus area.

Table 3-1 Strategy for each Focus area

Focus area	Description
3b “Risk management	• Brief description of flooding frequency and impact it has on local (rural and urban) communities and farming land. • Description of how soil and land use can be changed to increase infiltration and storage of water to reduce flood risk in local areas. • Statement on how the need developed for the programme links to the objectives of the Floods Directive. • What types of interventions will be financed (e.g. under M5). • Whether the focus is on technical, grey infrastructure or natural water retention measures or both. • How the measures will be prioritised in line with the significant flood risk areas identified under the Floods Directive.
4b “Improving water management, including fertiliser and pesticide pollution”	• Brief description of the main agricultural pressures facing the water environment, focussing on pollution and morphological alterations. • Statement on how the needs developed for the programme links to the objectives of the Water Framework Directive. • Description of how each measure and its sub-measures (i.e. operations) programmed under focus 4b contribute to reducing fertiliser and pesticide pollution or to reducing morphological impacts. • Clear statements regarding the indirect or direct impacts expected. • Description about how the mix of measures together will contribute to achieving good status according to the WFD. • Any information regarding targeting or measures to specific water bodies or catchments at risk due to agricultural pressures.

Focus area	Description
Focus area 5a “improving efficiency in water use”	• Brief description of the impact that water abstraction by the agriculture sector has on water bodies, as well as an indication of the current level of efficiency in the irrigation system. • Clear statements regarding whether new irrigation areas will be financed or only existing areas. • Statement on how it was decided what the minimum savings requirement for irrigation investments is (i.e. 5%, 10% etc.) and how this links back to both the current efficiency of equipment and agricultural abstraction pressures. • Information on how the expected water savings from investments in irrigation efficiency will contribute to improving the quantitative status of groundwater bodies and to improving environmental flows in surface water bodies. • Description of any individual sub-measures under M4.4 or M10 that focus on agriculture cropping practices to reduce water use.

4. Assessment of the Ex-Ante Conditionalities

4.1 What is required

According to Article 2 ("Definitions") of Regulation 1303/2013 (the regulation laying down general provisions of the European Structural Funds, including the EAFRD), an ex-ante conditionality is *a concrete and precisely pre-defined criterial factor, which is a prerequisite for and has a direct and genuine link to, and direct impact on, the effective and efficient achievement of a specific objective for an investment priority or a Union priority*.

Annex V of the EAFRD defines priorities-linked ex ante conditionalities for rural development. Annex 1, Part 4 of Regulation 808/2014 provides an indicative list of priorities/focus areas and measures of particular relevance to ex-ante conditionalities (rural development priority-linked and general).

Table 4-1 Ex-ante conditionality (EAC) 5.2 for the water sector according to Annex 1 of Regulation 808/2014

EAC 5.2	Criteria for fulfilment	Applicability to focus areas and measures
In sectors supported by the EAFRD, a Member State has ensured a contribution of the different water uses to the recovery of the costs of water services by sector consistent with Article 9, paragraph 1 first indent of the Water Framework Directive having regard where appropriate, to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.	In sectors supported by the EAFRD, a Member State has ensured a contribution of the different water uses to the recovery of the costs of water services by sector consistent with Article 9, paragraph 1 first indent of the Water Framework Directive having regard where appropriate, to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.	Focus area: 5A Measures under Articles 17 (M4) and 35 (M16) of Regulation (EU) No 1305/2013

Box 4-1 Requirements of Art. 9 (1) WFD

Article 9 (1) of the WFD stipulates the conditions for the recovery of the costs for water services:

Member States shall take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle.

Member States shall ensure by 2010:

- that water-pricing policies provide adequate incentives for users to use water resources efficiently, and thereby contribute to the environmental objectives of this Directive,

- an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture, to the recovery of the costs of water services, based on the economic analysis conducted according to Annex III and taking account of the polluter pays principle.

- Member States may in so doing have regard to the social, environmental and economic effects of the recovery as well as the geographic and climatic conditions of the region or regions affected.

4.2 Guidance

An explanation of a MS's fulfilment of EAC 5.2 is required if the RDP finances investments in irrigation under Focus area 5a. The MS has to demonstrate whether EAC 5.2 has been fulfilled or not. In the latter case, the RDP has to provide an action plan where EAC 5.2 has not yet been fulfilled. EAC 5.2 is important for irrigation investments because it requires that MS have applied water pricing obligations to the agriculture sector (in line with WFD Art. 9), thereby ensuring that water users contribute to the costs of providing water services and protecting water resources.

In a good practice RDP, all investments in improvements to the water efficiency of existing equipment should be programmed under Focus area 5a. MS/Regions may programme the support for increases in irrigated areas (i.e. new irrigation) under Focus area 2a[16] (economic performance and modernisation). It is important to note, however, that the current

[16] The full title of Focus area 2a is: improving the economic performance of all farms and facilitating farm restructuring and modernisation, notably with a view to increasing market participation and orientation as well as agricultural diversification.

Implementing Regulation does not link the fulfilment of EAC 5.2 as a prerequisite for irrigation investments if they are programmed under Focus area 2a. Therefore, it would be beneficial for EAC 5.2 to be linked to both Focus areas in the Regulation. Nevertheless, all MS are required to implement water pricing in the agriculture sector in accordance with Art. 9 of WFD. It is important to ensure adequate pricing is in place to avoid the potential over-exploitation of water resources. Ensuring sustainable use of water resources is important not only from an environmental perspective but also for the longevity of farming operations reliant on irrigation.

To this end, EAC 5.2 requires:

- Element 1 – there is an incentive pricing policy to use water resources efficiently.
- Element 2 – there is adequate contribution of the agriculture sector (including self-abstraction for irrigation) to the recovery of the costs of water services, including environmental and resource costs reflected in pricing policy.
- For MS/Regions to demonstrate full compliance with Article 9 of the WFD (and therein EAC 5.2), the following conditions would be met:
- All abstractions from surface and ground waters (and reservoirs) for agricultural use are subject to a permit and are regulated by water meters.
- There is an inspection system and fines/penalties for a farmer who does not comply with the volume defined in the permit requirements.
- All abstractions from surface and ground waters (and reservoirs) by farmers are subject to a fee (i.e. price).
- The price paid for water is based on the volume of water abstracted by individual agricultural uses. The volume of water (paid for) is calculated by an individual farm level meter.
- There is a clear government commitment (i.e. regulation) to apply volumetric pricing policy for all agricultural users. The pricing policy provides incentives for the agriculture sector to shift to crops, irrigation technologies and practices that ensure efficient use of water or, in water-scarce areas, to less-water consuming crops.
- The price paid for water internalises environmental and resource costs, i.e. the water price charge to farmers goes beyond costs linked to infrastructure such as maintenance, energy, distribution, etc.

5. Description of the Measures selected

5.1 What is required

The EAFRD requires that a rural development programme provides a description of each measure selected (Art. 8.f EAFRD). The description of the programme's strategy requires that the specific needs, which are linked to the conditions within a territory, are taken into account through an adequately designed combination of measures (Art. 8.c (iv), EAFRD). Moreover, "*each rural development measure shall be programmed to contribute specifically to the achievement of one or more Union priorities for rural development*" (Art. 13, EAFRD).

Box 5-1 Requirement of the content of Chapter 8 "Description of the Measures" according to Annex 1 of Regulation 808/2014

Chapter 8 of the RDPs should provide a description of the measures selected. Chapter 8.1 must include a description of the general conditions that apply to more than one measure, including baselines, cross-compliance requirements, as well as provisions for Art. 46 EAFRD (water saving requirements for irrigation investments; more below). Chapter 8.2 must provide details on the individual measure. In the context of water management, the most relevant requirements of the Regulation include:

a) General description of the measure including its intervention logic and contribution to focus areas and cross-cutting objectives; and

b) Scope, level of support, eligible beneficiaries, and where relevant, methodology for the calculation of the amount or support rate broken down by sub-measure and/or type of operation where necessary. For each type of operation, the eligible costs, eligibility conditions, applicable amounts and support rates and principles with regard to setting of selection criteria should be described.

The following section provides guidance on the sections considered most relevant[17] for the integration of WFD and/or FD issues:

- General description of the measure;
- General description of the type of operation;
- Links to other legislation;

[17] Not included are the required sections "Type of support" and "Eligible costs".

- Beneficiaries;
- Eligibility conditions; and,
- Principles with regards to the setting of selection criteria.

5.2 Guidance

The measure package is the crux of an RDP. The selection and design of measures will dictate how beneficial the RDP can be in support of WFD objectives. In chapter 8 of the RDP, the selected measures are detailed.

For design of their measure package, MS/Regions can choose from 19 measures. Within these measures, MS/Regions can design operations or "sub-measures", many of which can be used to address agricultural impacts on water management and to address flood risk prevention. The table below gives an overview of the 10 measures that are most relevant from a water and floods perspective and provides a brief explanation of the types of water and flood related operations that can be financed under them.

Table 5-1 Measures that can support the WFD and FD

Measure	Description of relevant sub-measures for water and flood management
Measure 1 "Knowledge transfer"	Training to increase capacity and skills, including environmental skills.
Measure 2 "Advisory services"	Information provision though extension services and farm-level advice, including on environmental dimensions.
Measure 4 "Investments"	Measures such as more efficient fertilizer application, expanding manure storage, irrigation systems and non-productive investments tied to agri-environment-climate.
Measure 5 "Natural disasters"	Restoring farms after flood damage and invest in flood prevention.
Measure 7 "Basic services"	Floodplain management, wetland restoration, improving river continuity (e.g. fish ladders on dams), re-meandering, other river restoration work.
Measure 8 "Forest investments"	Afforestation, riparian forests and other forest-based landscape features (tree-belts) and land use (e.g. agro-forestry).
Measure 10 "Agri-environment-climate"	Soil conservation, green cover, buffer strips and riparian margins, land use conversion from arable to grassland, reduced fertilisers and pesticides application, hedgerows.

Measure	Description of relevant sub-measures for water and flood management
Measure 11 “Organic farming”	Organic reducing inorganic fertiliser and pesticide use
Measure 12 “Natura 2000 and WFD payments”	WFD payments to support farmers to meet requirements introduced by the Water Framework Directive in accordance with the programmes of measures of the river basin management plan. For example, M12 compensation may be provided by a Member State when agri-environment-climate or organic farming is made obligatory in order to protect specific drinking water areas or reach WFD objectives.
Measure 16 “Cooperation”	Cooperative action, pilot projects and innovative practices. For example, collaborative projects between farmers, scientists and authorities to implement natural water retention measures across whole catchments.

5.2.1 Good examples of measures to support the WFD

The boxes below show a selection of measures found in the 2014-2020 RDPs that are especially beneficial from a water and/or floods perspective. They have been chosen to be showcased in this RDP due to either:

- Their innovative nature;
- Their emphasis on improving good status in water bodies and their specific, stated support for the implementation of the WFD and/or the FD; or
- Their targeting of measures to areas where improvements are most needed.

Box 5-2 Measure 4 “Investments in agriculture holdings” to address nutrient pollution

United Kingdom - N. Ireland

Sub-measure 4. 1 (the Business Investment Scheme) financing for investments includes, among others, precision slurry/manure and fertiliser application equipment to reduce the need for inorganic fertiliser use, manure storage modernisation, bio-bed filters for treating pesticide washings/ residues and constructed farm wetlands for bioremediation. Eligibility conditions state that farm advice will be made available to farmers and land managers prior to consideration of grant assistance, which will address emissions, manure, pesticide and fertiliser use and other steps they can take to mitigate any harmful impacts on soil, water, air

quality and biodiversity. Prioritisation will be given to projects demonstrating innovation and environmental sustainability.

Why is this a good example?

- It not only finances the modernisation of manure storage, it also finances the innovative approach to reduce the need for storage through constructed farm wetlands.

- The measure enables farmers to take a multi-pronged approach to addressing diffuse pollution: it finances improved storage, it reduces the need for storage through the wetlands, it finances enhanced application equipment to reduce the amount of fertilizers spread on land and it offers farm advice for farmers to improve fertiliser use with the aim to reduce impacts on water.

- It prioritises investments geared towards environmental sustainability.

United Kingdom - Scotland

Sub-measure 4.3 provides support for, among others, slurry stores, and investments to reduce pollution risks. Investments to reduce pollution risks include improved pesticide handling facilities and upgrading livestock tracks for dairy cattle. Eligibility conditions for slurry storage targets land within a diffuse pollution priority area (not part of a nitrate vulnerable zone (NVZ) identified under the Nitrates Directive or is a NVZ designated after 2014) and that livestock numbers cannot increase as a result of increased slurry storage capacity. Livestock tracks can only be financed in land at risk of poaching and where run-off from the area can pose a pollution risk to surface water.

Why is this a good example?

- It targets investments to diffuse pollution priority areas and areas with run-off.

- It includes eligibility conditions that prevent farmers from increasing manure generation if they receive financing for storage.

Box 5-3 Measure 7 "Village renewal and basic services"

Baden Württemberg, Germany

Under M7, the operation "Measure to support natural development of SWBs" has been specifically designed to support the implementation of the WFD. Operations under this measure include: re-establishment of river continuity, improving the water structure and creating habitats. The measure is intended to improve the ecological status of water bodies, while at the same time taking advantages of synergies with flood protection and implementation of the Floods Directive. For example, operations will support the re-connection of floodplains, removal of dams and other natural water retention measures. Operations to create habitats should to take into account flood protection objectives during planning. The RDP clearly states that none of the measures under M7 can lead to a deterioration in flood protection. The RDP also states that these measures have been taken from the programme of measures of the river basin management plan. Only Category 1 waters are eligible.

Why is this a good example?

- The measure is a multi-objective natural water retention measure: it supports implementation of the WFD and FD and supports nature protection through the creation of habitats but therewith also strengthens the self-cleaning capacity of the waters.

Box 5-4 Use of eligibility criteria under M10

France

The agri-environment-climate measure in France is established at national level supplemented by strategies at regional (RDP level). The national framework requires that the regional agri-environment-climate strategy is coordinated with other regional and local plans, including RBMPs and other water management related plans in France (e.g. catchment management plans, territorial contracts of the water agency). One main mechanism to increase this coordination is through spatial targeting. Spatial targeting of M10 sub-measures occurs through two mechanisms.

A first prioritisation is presented in the RDP through the M10 agri-environment strategy. For example, in the Midi-Pyrenees RDP the M10 agri-environment-climate strategy targets the following water priority areas: 1) catchments experiencing water scarcity resulting in not reaching ecological flow targets, 2) drinking water protected areas, 3) water bodies in bad ecological status identified according to the characterization report from 2013, and strategic zones for future water use (drinking water, bathing water, wetlands).

The second level of spatial targeting occurs through "agri-environment-climate projects" (PAEC). Any M10 sub-measure (MAEC) must be implemented in the areas identified in the RDP (above) and covered by a PAEC. PAECs are sub-regional plans that aim to implement M10 sub-measures in a coordinated way in pre-defined sub-regions of the RDP region (e.g. a catchment).

Why is this a good example?

- The measure allows for targeting of financial support where results are most needed in a coordinated way.

Box 5-5 M12 "Payments for N2K and WFD"

France

Measure 12 aims to cover supplementary costs and revenue losses associated with implementation of WFD. With regards to water management, M12 in France is used specifically for the implementation of measures in drinking water protected areas. M12 sub-measures should be used when sub-measures in M10 and M11 (which are of a voluntary nature) are not enough to achieve the objectives, and must be made compulsory. As such, the measure allows (but not restricted) cumulative subscriptions of M12 sub-measures with M10 or M11 sub-measures. M12 will support actions that contribute to the following: reduced use of fertilisers/pesticide products, maintain or support expansion of beneficial cover and crops, extensification of land use, maintenance of green infrastructures.

Why is this a good example?

- M12 has hardly been applied in the MS for the WFD and this example shows how it can be used.

- The measure is targeted towards drinking water areas which require very often specific protection. Concentrating the measures to such areas means that the costs of removing pollution will not be passed onto drinking water customers but addressed through agricultural funds.

5.2.2 General description of the measure

In the general description of the measure, information should be provided regarding the intervention logic and contribution to focus areas and cross-cutting objectives for all operations (i.e. sub-measures). What this means in practical terms is that the general description should:

1 Summarise the main pressures the measure is addressing

In the context of supporting the WFD and/or FD, this section would include clear information regarding pressures on water bodies. Depending on the objective of the measure, the summary would provide answers to the questions in Table 5-2.

Even in cases where the main objectives of the measure *are not primarily* linked to water management issues (e.g. increasing manure storage capacity to reduce ammonia and GHG emissions), the general description would still provide the above-listed context if the measures being financed have a *positive, indirect link* to water management.

Table 5-2 How the general description would present pressures

Pressure	Questions
Water quality	• What inputs are causing the pollution? It is nitrogen, phosphorus or pesticides? • What activity is causing the pollution? Is it arable farming, livestock production or horticulture production? • Is the pollution from point source or diffuse? • What percentage of surface water bodies and ground water bodies are failing good ecological status and/or good chemical status due to pollution problems?
Water quantity	• What is the percentage of agricultural water use in comparison to total water consumption in the territory? • What is share of the types of irrigation systems? i.e. what percentage of irrigation is done through sprinkler systems, open irrigation channels, drip irrigation, etc. • How significant are water scarcity and drought issues in the territory and to what extent does agricultural water abstraction contribute to these problems? • What is the quantitative status of groundwater bodies in the territory? • What reduction in agricultural abstraction is necessary to contribute towards good groundwater status and to restore environmental flows to support good ecological status in surface waters?
Morphological pressures	• What activities are causing morphological alterations? Is it irrigation infrastructure, livestock poaching, reservoirs, dams for water supply or hard infrastructure for flood prevention? • What morphological alterations are found in the territory? i.e. straightening of rivers, loss of floodplains or wetlands, dredging, canalisation, bank enforcement, etc. • Which of these are linked to development or maintenance of

Pressure	Questions
	agriculture? • What percentage of water bodies is failing good ecological status to morphological alterations? • If possible, quantitatively determine how many barriers (dikes, dams) need to be removed, what area of wetlands need to be restored to reach good status/or potential.

2 Summarize the objectives of the measure

The general description should include an indication of how the measures contribute to achieving the objectives, i.e. “the needs” and the contribution to the focus areas. The following aspects would be included in a good practice RDP:

- A clear link to the needs identified in the programme. The general description would state how each type of operation will contribute to achieving the need identified. For example, if a RDP has identified as a need “reducing water pollution”, the general description would clearly explain how a particular operation will lead to a reduction in water pollution. In addition, it would be considered best practice to highlight how the measures will contribute to the objectives of the WFD, especially where the MS or region has specified its WFD PoMs that this pressure will predominantly be addressed through measures funded under the RDP to achieve WFD objectives.

- A clear link between the measures and the focus areas:

  - Measures addressing flooding would be clearly linked to focus area 3b, including a description of how the measure will lead to flood risk prevention

  - Measures addressing water pollution (nutrients and pesticides) and morphological alterations would be clearly linked to focus area 4b, including which inputs the measures will reduce (i.e. nitrogen, phosphorus, pesticides) or which alterations the measures will address (e.g. dredging, bank enforcement, straightening of rivers, bank degradation through livestock)

  - Measures financing irrigation infrastructure expected to contribute to climate change adaptation would be clearly linked to focus area 5a and therefore subject to Ex-Ante Conditionality 5.2. As the majority of large-scale irrigation infrastructure is located in areas experiencing water scarcity and droughts, and these pressures are likely to increase under climate scenarios, it’s important that pricing signals (implementation of WFD article 9 water pricing in agriculture) encourage farmers to select crops consistent with the current and future water resources available in a given region. The description of the link to focus area 5a

in the RDP would describe how the investment in irrigation infrastructure will lead to water savings, e.g. through minimum water savings requirements or financing more efficient drip irrigation rather than sprinkler systems.

Box 5-6 General measures description with clear links to the WFD

United Kingdom - England

The English measure description of M10 provides a summary of modelling work conducted in early 2014 to give an indication of the measure's potential benefit regarding WFD objectives where agriculture is considered to be a contributory factor and where Measure 10 options (and associated Measure 4.4 investments) may offer some benefit. A level of benefit between 3 and 30% improvement (between current position and WFD objective) was determined, depending on the catchment type, the focus on targeted effort and supporting advice and depending on the level of uptake by farmers.

The measure is based on scientific evidence and shows the potential contribution to reduce the gap for achieving good status. This allows the water authorities to estimate which additional measures might be needed to fully close the gap.

5.2.3 Description of the type of operation

The description of the type of operation in a good practice RD would concretely define 1) the objective of that specific operation and 2) what are the requirements of the operation.

1 Summarise the objectives of the measure

As in the section on the general description, the description of the type of operation would clearly lay out what objectives the measure aiming to achieve, i.e. reducing nutrient pollution, reducing pesticide pollution, reducing morphological pressures, reducing water use. The description would provide such information for *direct* and *indirect* links. For example, an operation that aims to preserve bird habitats through later mowing periods but also prohibits the spreading of fertilizers or the spraying of pesticides would also clearly state that this operation will positively contribute to reducing water pollution problems.

2 Requirements of the operation

The description of the operation would detail what requirements are expected of the farm or landowner to implement the measures. In this section, it would be beneficial to describe the individual requirements rather than providing general statements. For example, if a measure requires a winter cover crop, the date of sowing would be mentioned or if a measure requires a reduced application of fertilizer, the maximum allowance would be defined rather than

stating low-input management. Such information would enable stakeholders to understand what is being financed and how the measure goes beyond minimum requirements.

In rural areas where the pressures on surface and groundwater bodies are considerable, and especially where a MS has indicated in its RBMPs that basic measures like the Nitrates Directive or Sustainable Use of Pesticides Directive are not enough to achieve good status, it would be valuable to design the measure requirements to be as ambitious as possible or to only finance measures that go well beyond the minimum requirements of cross compliance. The table below highlights the differences between the level of ambition of different requirements.

Table 5-3 Less vs. more ambitious measures

Less ambitious requirements or measures	More stringent requirements or measures
Using pesticides according to the label requirements	Reduced pesticide application *or* Prohibition of pesticide application in terms of amount or areas (in e.g. drinking water catchments)
Minimum water savings of 5% for investments in irrigation efficiency	Minimum water savings equal to or greater than 25% for investments in irrigation efficiency
Building slurry/manure storage capacity to meet the minimum requirements of the ND	Artificial wetlands to filter manure and reduce the need to expand storage Enhanced manure storage capacity, including covers for ammonia emission that ensure organic manure is only added when the crop can take the nutrients up and nutrient emission area reduced to enable stricter WFD standards to be met Fencing of farmland along rivers to keep animals away from water
Payments to reduce nutrient losses (or to plant cover crops) to groundwater where the groundwaters have nutrient levels well beyond the ND and GWB 50 mg/l limit	Nitrogen fixing wetlands, 20-meter-wide buffer strips, precision farming techniques

5.2.4 Links to other legislation

Any measure that aims to address any aspects of water management – whether water quality, water use, morphological alterations or flood risk prevention – would clearly indicate the Water Framework Directive and/or the Floods Directive in this section.

5.2.5 Beneficiaries

Beneficiaries can be farmers, groups of farmers, landowners or municipalities. Individual action by one farmer is unlikely to deliver environmental change. Enabling groups of farmers to implement measures in a given area can help ensure that funded schemes deliver results. Seeing such results, farmers may be more motivated to be involved in similar schemes in the future.

Box 5-7 Taking advantage of landscape scale through M16 "Cooperation"

Slovenia

Within the scope of Focus area 4b, M16 contributes to enhancing efficient forms of cooperation among various entities that contribute to water protection and to strengthening innovative approaches and cooperation in the field of improving the condition of SWBs and GWBs. The beneficiaries under this operation include producer groups, cooperatives and operational groups of the EIP for agricultural productivity and sustainability. Within this measure, cooperation projects will be financed that aim to increase the sustainability of agriculture in areas that are problematic due to diffuse pollution. These areas include specific reservoirs and catchment areas of SWBs and GWBs referred to in the RBMPs as not achieving WFD objectives and specific catchment areas of retention basins.

Malta

The general description of M16 highlights the need to take a territorial approach to address water management needs to enable synergies with Malta's Water Catchment Management Plan. Cooperation on improving efficiency of water use will be financed such as rainwater harvesting and sharing smart irrigation systems to control water use. In addition, collective action through territorial partnerships in valleys or sub-catchments to restore rubble walls will help to control flooding. Cooperation on research for waste and nutrient recycling will also be financed, as well as pilot testing of practices to increase efficiency of input use (including fertilisers, manure, pesticides, water).

5.2.6 Eligibility conditions

Eligibility criteria set the conditions that have to be met for a project to be considered for financial support. Eligibility criteria can take two forms:

1. Environmental safeguards to ensure that certain investments like irrigation, drainage or hard flood prevention measures does not lead to the deterioration of water body status in any catchments:

   a. Art. 46 of the EAFRD governs the financing of irrigation systems. It is a mandatory eligibility condition that all MS must apply.

   b. Art 4 (7,8,9) of the WFD requires MS to screen all new financing of projects to see if they have the potential to deteriorate a water body and to take actions based on such a screening (more below). This eligibility criterion is not enshrined within the EAFRD like Art. 46; however, the application of Art. 4 (7,8,9) WFD is mandatory for all MS as it is part of EU legislation.

2. Targeting to focus a measure to areas where interventions are most needed.

Article 46

Article 46 of the EAFRD governs investments in irrigation for new and existing irrigated areas. Either in the general chapter on regulations governing multiple measures (i.e. Chapter 8.1) or in the eligibility conditions within the individual operations, the way in which all the provisions of Art. 46 EAFRD are to be implemented would be laid out in full. This would ensure clarity for all actors involved and enable the links to be made to relevant parts of the RBMP.

Box 5-8 Provisions of Art. 46 according to the Regulation 1305/2013 EAFRD

1. A river basin management plan, as required under the terms of the Water Framework Directive, shall have been notified to the Commission for the entire area in which the investment is to take place, as well as in any other areas whose environment may be affected by the investment. The measures taking effect under the river basin management plan in accordance with Article 11 of the Water Framework Directive and of relevance to the agricultural sector shall have been specified in the relevant programme of measures (Article 46, §2).

2. Water metering enabling measurement of water use at the level of the supported investment shall be in place or shall be put in place as part of the investment (Article 46, §3).

3. An investment in an improvement to an existing irrigation installation or element of irrigation infrastructure shall be eligible only if it is assessed ex ante as offering potential water savings of a minimum of between 5 % and 25 % according to the technical parameters of the existing installation or infrastructure.

If the investment affects bodies of ground- or surface water whose status has been identified as less than good in the relevant river basin management plan for reasons related to water quantity:

(a) the investment shall ensure an effective reduction in water use, at the level of the investment, amounting to at least 50 % of the potential water saving made possible by the investment;

(b) in the case of an investment on a single agricultural holding, it shall also result in a reduction to the holding's total water use amounting to at least 50 % of the potential water saving made possible at the level of the investment. The total water use of the holding shall include water sold by the holding.

None of the conditions in paragraph 4 shall apply to an investment in an existing installation which affects only energy efficiency or to an investment in the creation of a reservoir or to an investment in the use of recycled water which does not affect a body of ground or surface water (Article 46, §4).

4. An investment resulting in a net increase of the irrigated area affecting a given body of ground or surface water shall be eligible only if:

(a) the status of the water body has not been identified as less than good in the relevant river basin management plan for reasons related to water quantity; and

(b) an environmental analysis shows that there will be no significant negative environmental impact from the investment; such an environmental impact analysis shall be either carried out by or approved by the competent authority and may also refer to groups of holdings.

Areas which are not irrigated but in which an irrigation installation was active in the recent past, to be established and justified in the programme, may be considered as irrigated areas for the purpose of determining the net increase of the irrigated area (Article 46, §5).

Application of Art. 46 should consider the following aspects of river basin planning:

- Revised water permits would be in place for all significant agricultural abstractors and the permits would indicate that any reduction in abstraction required to meet the WFD good status objectives (and the investment in irrigation efficiency would then be driven by an environmental need). In addition, full water status would be known for all water bodies before any investment in irrigation was authorised (especially for extension of irrigation area).

Box 5-9 Application of Art. 46: Water permitting requirement

Poitou-Charente, France

M4 covers investments in offline reservoirs to reduce pressure on surface and groundwater bodies in a certain time of the year (sub-measure 4.3.1). Reservoirs must be built outside the water bodies and cannot lead to an increase in irrigated areas; they must be accompanied with metering and the cancellation of the licence to abstract during seasonal low flows (i.e. the measure supports substituting one source of water with another to reduce the overall environmental impact of the abstraction pressure). The sub-measure includes the following selection criteria: priority will be given to collective projects, projects aiming to reach the goals of the RBMPs and projects which include additional investments to deliver additional water savings and diversify farming to more water efficient crops.

Box 5-10 Application of Art. 46: Water permitting requirement

Malta

Sub-measure 4.1 finances water capture, storage and distribution and smart irrigation. Any water source used by an irrigation (or water use) scheme has to be registered with the competent regulatory authorities. Due to the limited number of users who abstract directly from a body of surface water and the highly problematic issues associated with metering such abstractions, irrigation schemes using such water will not be eligible for investments. In the case of groundwater sources, only registered borehole users are eligible.

- Art. 46§4 requires investments in existing systems to result in a potential water savings of a minimum between 5% and 25%. The potential water savings required should take into account the technical specifications of an existing system as some systems are already more efficient than others (drip irrigation vs. surface irrigation). While MS are not required to go beyond the 5% potential savings, areas experiencing serious water scarcity issues contributing to low environmental flows and insufficient groundwater recharge would benefit from higher savings. In a good practice RDP, the minimum potential savings would be linked to the need to deliver savings. It is also important to consider that a 5% potential savings leads more to an effective savings of 2.5%, which is very minor compared to the effects of climate change on decreasing runoff. Furthermore, abstraction figures cannot be automatically associated with a reduction in water consumption, as the Art.46 does not refer to changes in the return flows to water bodies after agricultural water use. As such, it would be beneficial to introduce a higher minimum savings in the eligibility conditions.

Box 5-11 Application of Art. 46: Minimum water savings

Croatia

Sub-measure 4.1 finances the reconstruction and modernisation of agricultural holdings, including, among others, investments in irrigation systems for vineyards including improvements to existing irrigation equipment/infrastructure and the set-up of new irrigation systems (net extensions this irrigated area). The RDP stipulates that a certificate has to be provided for an investment in the replacement or improvement to an existing irrigation installation offering potential water savings of a minimum 25% in terms of technical parameters of the existing installation or infrastructure.

Although Croatia only irrigates 1.1% of its agriculture, droughts occur frequently (every three to five years on average) and can significantly impact crop yields (between 20-80%). It is therefore good practice that the RDP has required a minimum potential savings of 25%.

- To fully adhere to Art. 46 §4a, a good practice RDP would specify whether such ex-ante assessment has been carried out and by whom as well as what system will be in place to ensure and measure water savings. The RDP would specify how the 50% of the potential saving will be turned into an effective savings and how this will be assured and measured, e.g. could be translated into a reduction of the water permit and metered. Under this provision, all surface water bodies in "unknown" status (an exception situation in the 2nd and 3rd WFD planning cycles) would also be considered, as they are 'at risk' of not achieving good status.

- Investments resulting in a net increase of the irrigated area are not permitted in water bodies in less than good quantitative status. (Article 46, §5a-b). Investments would only be eligible if there are sufficient water resources to support such an expansion. This would be demonstrated by an assessment by the water authorities that a further allocation of water to agriculture would not result in deterioration of water body status. In carrying out this assessment, full water status would be known. The RDP would clearly mention by whom the analysis will be carried out. Furthermore, the baseline would refer to the irrigated area in the recent past (e.g. since 2009) and avoid referring to potentially irrigable areas, as per administrative decisions. Moreover, in determining whether net expansion is possible in certain water bodies, the assessment would focus on "quantitative causes" rather than "abstraction pressures", i.e. not only "water abstraction" would be included, but also other pressure types that affect 'water quantity' of a surface water body such as "water flow regulation and morphological alteration", "river management" and "other pressures". Furthermore, all surface water bodies in "unknown" status would also be considered, as they are 'at risk' of not achieving good status.

Box 5-12 Application of Art. 46: New irrigated areas

Cyprus

Under sub-measure 4.1, eligible investments of relevance for water are e.g. investments which contribute to saving water and the sustainable management of the resource (specified as: “establishment or modernisation of irrigation systems to contribute to efficient use and saving of water”), including water storage. Art.46 Rural Development Regulation (RDR) is reflected in the eligibility conditions for investments in irrigation, which reflect the criteria to be fulfilled. The RDP requires a minimum of 10% potential water savings despite Cyprus already having made improvements in the recent past. In addition, new irrigated areas related to water bodies in less than good status are only possible for using recycled water (under the condition that no surface or groundwater body will be affected) for using recycled water.

Art. 4 (7) WFD

The RDPs might be used to finance operations and investments that can potentially impact hydromorphology or alter the level of groundwater and can therefore negatively impact the implementation of the WFD. Such investments can include:

- New irrigation infrastructure, including pumping stations;
- Measures that influence (increase or decrease) the groundwater table;
- Construction of reservoirs;
- Land drainage activities; and,
- Technical flood risk prevention measures.

The environmental objectives of the WFD state that natural surface water bodies must, by 2015, adhere to good ecological and chemical status and groundwater bodies to good quantitative and chemical status. Artificial and Heavily Modified Water Bodies must achieve good ecological potential and good chemical status. Moreover, MS must prevent deterioration of the status of all water bodies. It is possible to apply exemptions to these objectives, the conditions of which are outlined in Art. 4 of the WFD.

Article 4 (7) stipulates that an exemption can be applied for new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or failure to prevent status deterioration of a body of surface water (including from high status to good status) as a result of new sustainable human development activities. However, any new modifications must be initially assessed to determine whether they could lead to a

deterioration in water body status. Such an initial assessment needs to be undertaken prior (ex-ante) to the authorisation of a project. A precondition for an appropriate initial assessment is knowing the status of the water body in question, as well as information on the proposed project. The initial assessment would determine whether an investment would either a) cause a deterioration of status (or potential) of a surface or groundwater body, or b) prevent the achievement of good status or potential for water bodies currently failing good status. If the initial assessment determines that an Art. 4(7) assessment is needed as a project is expected to cause deterioration/non-achievement of good status/potential, then the MS is required to carry out a full Art. 4 (7) assessment.

In the RDP, it is important that reference is made to Art. 4 (7) within the eligibility conditions for the above-mentioned investments. While not specifically required by the EAFRD, such a link to Art. 4 (7) WFD is important given the Commission assessment that many MS are not fully clear when Art. 4 (7) and its assessment requirements apply. A reference to Art. 4 (7) WFD under the eligibility criteria would help to clarify the legal requirements to local authorities.

Box 5-13 Reference to Art. 4 (7) WFD for Drainage activities

Latvia

Sub-measure 4.3 (Under M4 “Investments in agriculture holding”) supports the reconstruction of infrastructure for drainage systems. The measure description indicates that aid intensity is greater for environmentally friendly measures like sedimentation ponds, wetlands and rainwater harvesting. Eligibility criteria state that financial support will be provided for reconstruction of drainage only if it is line with Art. 4 (7,8,9) of the WFD, taking into account the cumulative effectives of appropriate mitigation measures at river basin level. Selection criteria state that projects will be prioritised in at-risk water bodies that do not lead to any deterioration or negatively affect a positive improvement in water body status.

United Kingdom - Northern Ireland

The Business Investment Scheme (Sub-measure 4.1) finances, among others, installation of drainage systems to improve land management. Eligibility criteria state that support for drainage will only be provided if the project is in compliance with Art 4 (7, 8, 9) of the WFD, cumulative impacts are considered and mitigation measures at river basin management level are foreseen. In addition, the installation of drainage systems requires a farm level nutrient and pesticide management plan and an environmental assessment. Moreover, any drainage that could negatively impact the status of water bodies or exacerbate flooding under the Floods Directive are not eligible. Another eligibility criterion for all investments is advice to farmers and land managers that address emission, manure, pesticide and fertiliser use with the aim to mitigating negative impacts on water.

5.2.7 Eligibility criteria to target measures

Eligibility criteria can be used to target implementation to specific catchments or areas where water bodies are failing good status, areas of highest societal importance, for example drinking water zones or bathing waters, or areas which may help reduce flood risk downstream. Such targeting may ensure that public funds are being used in a cost-effective way.

Box 5-14 Use of eligibility criteria under M10

Romania

Measure 10 contains 8 packages. Package 5 “adapting to the effects of climate change” is linked to Focus area 5a and finances the planting of drought resistant crops. A desertification risk map identifying critical areas has been used to target the measure in the eligibility conditions.

5.2.8 Principles with regards to selection criteria

Measures may include selection criteria that can be used to score the applications and rank them according to their contribution to objectives. Selection criteria are required to be developed for some measures (e.g. M4 and M7), but they are not required for M10 or M11. However, MS may still develop such criteria in order to prioritise the environmental targeting of these measures. Selection criteria are also helpful in situations where the interest in the measure could exceed the budget allocated.

Box 5-15 How selection criteria can help to target operations under M4 “Investments in agriculture holdings”

Tuscany, Italy

Under M4 4.1 “Improving the competitiveness of farms”, investments are proposed for the construction of dry stone walls, terraces, embankments for the retention of surface water and for meters for water abstraction. An eligibility criterion requires that the investments support water savings and the reduction of pollution, and a selection criterion prioritises investments in areas at risk of hydrogeological instability.

This example showcases how measures should be targeted to areas at risk. Without such selection criteria in place, stone walls and terraces would perhaps be financed in areas where the retention of water is less needed.

Box 5-16 How selection criteria can help to target operations under M5 "Restoring agricultural production potential damaged by natural disasters and catastrophic events and introduction of appropriate prevention actions"

Saxony-Anhalt, Germany

Measure 5 finances the restoration of existing dikes and other hard defence systems, as well as measures to improve natural retention. Natural retention measures financed under M5 include renaturation of river stretches while at the same time widening the river bed. The RDP mentions that, where possible, nature based solutions like green infrastructure will be prioritised over hybrid or purely technical defence measures. Selection criteria indicate that operations will be decided based on the Elbe Action Plan under the Floods Directive.

This example shows that, while hard defence measures may also be financed in the RDP, selection criteria can prioritise natural water retention measures. Moreover, it is a good practice example that the selection criteria link the financing of this measure to the Floods Directive, thus maximising the synergies between the RDP and the FD.

Box 5-17 How selection criteria can help to target operations under M7 "Basic services and village renewal"

Sweden

The measure will finance wetlands, ponds and ditches aimed at increasing the retention of nutrients and thus improving water quality. Supporting the achievement of WFD objectives and agreements with HELCOM (for the protection of the Baltic Sea) are specifically mentioned. The aim is to improve the ecological status by addressing physico-chemical, hydromorphological and biological quality elements that are linked to eutrophication. Four separate environmental investment types can be financed: 1) construction and restoration of wetlands and ponds for biodiversity, 2) construction and restoration of wetlands and ponds to retain nitrogen and phosphorus, 3) construction of ditches to reduce erosion and reduce losses of phosphorus from arable land and 4) projects to improve water quality (no additional information) in lakes, rivers and seas through actions in water bodies or those upstream that are less than good status under the WFD. Selection criteria are linked to ecological status of water bodies or areas with high nitrogen and phosphorus loads.

This example shows how measures can not only be targeted towards the specific objectives of the WFD but also be embedded into a wider regional context (HELCOM).

Box 5-18 How selection criteria can help to target operations under M8 "Investments in forestry holdings"

Denmark

In Demark, the measure's primary objectives are to support focus area 4a and 4b. Sub-measure 8.1 finances the creation of forests to help reduce nutrient (nitrogen and phosphorus) pollution to the aquatic environment, increase water retention and contribute to the protection of drinking water/groundwater. The implementation of the WFD is mentioned as a rationale for action. Selection criteria include those such as the number of hectares to be afforested, river basins with defined needs and low water retention, among others.

The above-mentioned approach maximizes public goods and minimizes land out of agricultural production by delivering multiple benefits.

Box 5-19 How selection criteria can help to target operations under M10 "Agri-environment-climate"

Greece

Operation 10.1.4 on "reduction of water pollution from agricultural activity" is a multi-objective measure, aiming to reduce both nutrient pollution and decrease water use. The measure finances 5-meter-wide buffer zones on land parcels adjacent to surface waters (focus on Nitrate Vulnerable Zones) and also requires a set-aside of agricultural area (of at least 30% of the irrigated area) and "dry" crop rotation (of at least 30% of the irrigated area). The selection criteria indicate that (after prioritizing NATURA 2000 sites), priority shall be given to actions affecting surface water bodies in less than good chemical status and groundwater bodies with poor quantitative status.

As one can see from above, there is a clear order in priorities for targeting this measure which should ensure the maximum environmental benefits that can be gained with the budget available.

Box 5-20 How selection criteria can help to target operations under M11 "Organic Farming"

Alsace, France

Measure 11 is primarily directed at focus area 4a but the general description highlights how organic farming will contribute to focus area 4b. The measure and sub-measures are defined in the national framework, which highlights that organic farming can contribute to tackling pesticides and fertilizer pollution and proposes to prioritise projects protecting drinking water abstraction zones (selection criteria). The general description of the measure highlights that organic farming can be deployed in degraded catchments according to the RBMP in order to improve water quality.

This example links organic food production with water protection in degraded catchments, which is normally not the case. Such an approach can be communicated as a multiple benefit to the consumers.

6. Evaluation and Indicator Plan

6.1 What is required

Article 27 of the Regulation[18] governing all EU Structural Funds, including the EAFRD requires that *each priority shall set out indicators and corresponding targets expressed in qualitative or quantitative terms in order to assess progress in programme implementation aimed at achievement of objectives as the basis for monitoring, evaluation and review of performance. Those indicators shall include [….](b) output indicators relating to the operations supported; [and] (c) result indicators related to the priority concerned*.

To this end, the EAFRD requires that a rural development programme includes an evaluation plan, as referred to in Art. 56 of Regulation 1303/203 (Art. 8.g EAFRD). Article 56 states that evaluations should assess the effectiveness, efficiency and impact (§3).

Box 6-1 Requirement of the content of Chapter 8 "Evaluation Plan" according to Annex 1 of Regulation 808/2014

The evaluation plan should include the following sections:

1) Objectives and Purpose;

2) Governance and coordination, including the main bodies involved and their responsibilities;

3) Evaluation topics and activities, including: activities to evaluate the contribution of each RDP Union priority to the rural development objectives (i.e. fostering competitiveness, ensuring sustainable management of natural resources and climate, and achieving a balanced territorial development of rural economics), assessment of the result and impact indicator values, and programme specific elements such as work needed to develop methodologies or to address specific policy areas, among others;

4) Data and information;

[18] European Commission (2013): Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006.

5) Timeline;

6) Communication; and,

7) Resources.

The EAFRD stipulates that a monitoring and evaluation system should be in place (Article 67 EAFRD) and stipulates that the objectives of the monitoring and evaluation system are to (Article 68):

a) demonstrate the progress and achievements of rural development policy and assess the impact, effectiveness, efficiency and relevance of rural development policy interventions;

b) contribute to better targeted support for rural development; and,

c) support a common learning process related to monitoring and evaluation.

The EAFRD requires that a rural development programme include an indicator plan, broken down into focus areas, comprising the targets based on the common indicators and planned outputs and planned expenditure of each rural development measure selected in the relation to a corresponding focus area (Art. 8.i EAFRD).

Article 14 of Regulation 808/2014 defines the monitoring and evaluation system, as stipulated by Article 67 of the EAFRD. The evaluation systems need to include a set of result and output indicators, including indicators to be used for the establishment of quantified targets in relation to rural development focus areas and a set of pre-defined indicators for the performance review (Art .14, §1b). The result and output indicators are set out in Annex IV (see Box 6-3).

Box 6-2 Requirement of the content of Chapter 11 "Indicator Plan" according to Annex 1 of Regulation 808/2014

Chapter 11 of the RDPs should provide a description of the indicator plan. The indicator plan, comprising separate structure tables, needs to set out:

a) By focus area, the quantified targets accompanied by planned outputs and planned total public expenditure of the measures selection to address the focus area;

b) For agriculture and forestry, the detailed calculation of the targets of priorities according to Article 5 (4), i.e. Priority 4, which includes focus area 4b on improving water management, and Article 5 (5) d and e, which focuses on GHG emissions and carbon sequestration, of the EAFRD; and,

c) Qualitatively, the additional contribution of measures to other focus areas.

Box 6-3 Requirements on output and results indicators according to Annex IV of Regulation 808/2014

Result and Target indicators relevant for water-relevant focus areas 3b, 4b and 5a:

R5/T7: percentage of farms participating in risk management schemes (focus area 3b)

R8/T10: percentage of agricultural land under management contracts to improve water management (focus area 4b)

R9/T11: percentage of forestry land under management contracts to improve water management (focus area 4b)

R12/T14: percentage of irrigated land switching to more efficient irrigation systems

R13: Increase in efficiency of water use in agriculture in RDP supported projects*

* complementary result indicators

6.2 Guidance

Most relevant in the context of integration of water management issues into the RDPs is that the evaluation plan includes the assessment of the result and impact indicator values, as defined under the common monitoring and evaluation framework (CMEF). It is important to note that CMEF aims to contribute to better targeted support for rural development;

Result and target indicators are intended to help MS quantify progress in achieving the objectives of the focus areas. However, the result and target indicators mentioned in the previous section are quite general and do not enable conclusions to be drawn on the improvements in water management[19]. Using the indicator "percentage of agriculture land under contracts to improve water management" or "percentage of irrigated land switching to more efficient irrigation systems" do not fully capture the complexity of what "improving water management" means.

While the RDPs are not obligated to go beyond the indicators prescribed in Regulation 808/2014, from the perspective of strengthening synergies between EU legislation it would be beneficial if MS would look to the indicators developed under the WFD to track measure progress and incorporate such aspects into their tracking of impact under the RDP.

The WFD requires monitoring the improvement of water body status (Article 8 WFD). Measures included in the WFD programme of measures for a river basin district have to be monitored. Since many MS have financially committed in their RBMPs to addressing agriculture pressures mainly through the RDP measures, these measures should therefore be monitored as part of the WFD monitoring systems. Non-binding reporting guidance[20] under the WFD suggests a list of indicators to assess the scale of measures needed to achieve WFD environmental objectives. The results and information coming from the WFD monitoring programmes information should support the existing CMEF in the 2014-2020 period so that a MS/Region can track whether the measures they are financing are indeed leading to improvements in water bodies. The inclusion of WFD indicators and their results would further bolster synergies in data gathering, thus it would not lead to any additional administrative burden for agriculture agencies.

The table below provides some suggestions for result indicators that could be helpful in better assessing the impact that the water-related measures in the RDP have on water pressures. Combining the information resulting from the indicators might allow better conclusions to be drawn on the effectiveness of the measures taken.

---

[19] As confirmed by the 2014 Court of Auditors (CoA) report[19], *CAP monitoring and evaluation systems are of limited use as regards water-related information. Where water is concerned, the CMEF lays down [..] one result indicator ('area under successful land management contributing to water quality') and one impact indicator ('improvement in water quality'). The audit found that the result indicator is not sufficiently precise as it does not specify what is meant by 'successful land management', the impact indicator on water quality refers only to nitrates and phosphorus, and there is no water quantity indicator".* Although the CoA report evaluated the result and impact indicators from the 2007-2013 programme, they have not considerably changed to the point where they can adequately reflect improvements in water management.

[20] European Commission (2015): WFD Reporting Guidance 2016.

Table 6-1 Non-binding indicators under the WFD that could be used to measure progress of RDP measures

Types of Measure financed under the RDP	Pressure being addressed	Target/Result indicators included in the CMEF[21]	Result indicators for measures available under the WFD[22]
• Advisory services for agriculture	• Water quality (nutrient and pesticide pollution) • Water abstraction by agriculture • Morphological alterations linked to agriculture activities	• Percentage of agricultural land under management contracts to improve water management • Percentage of forestry land under management contracts to improve water management	• KA01 – Area (km^2) of agricultural land required to be covered by advisory services to achieve objectives • KN01 – Number of advisory services required to achieve objectives • KN09 – Number of farms that need to be covered by advisory services to achieve objectives
• Measures to reduce sediment from soil erosion and surface run-off • Reduce nutrient pollution from agriculture • Reduce pesticides pollution from agriculture	• Water quality (nutrient and pesticide pollution)	• Percentage of agricultural land under management contracts to improve water management • Percentage of forestry land under management contracts to improve water management	• KA02 – Area of agriculture land covered by measures (km^2) to achieve objectives • KA03 – Area of agriculture land covered by measures (km^2) to reduce pesticide pollution in agriculture to achieve objectives • KA07/KL06 – Length (km)/area (km^2) of buffer strips required to achieve objectives • KA10 – Area of forest land (km^2) requiring measures to reduce nutrient inputs to levels compatible with the achievement of objectives • KA18/KL08 – Length(km)/Area (km^2) of river or area of water body requiring buffer zones to intercept or reduce sediment loads to rivers to achieve objectives

[21] See: http://ec.europa.eu/agriculture/sites/agriculture/files/cap-indicators/result/rd-target-indicators_en.pdf

[22] In accordance to Annex 8r of the WFD Reporting Guidance 2016.

Types of Measure financed under the RDP	Pressure being addressed	Target/Result indicators included in the CMEF[21]	Result indicators for measures available under the WFD[22]
• Technical measures for irrigation	• Water abstraction by agriculture	• Percentage of irrigated land switching to more efficient irrigation (Target indicators) • Increase in efficiency of water use in agriculture in RDP supported projects (Result indicator – not used in any RDP Programme for 2014-2020)	• KA11 – Area (km^2) of irrigated land required to be covered by measures to achieve objectives • KN34 – Number of water bodies where ecological flows need to be established to achieve objectives • KP01 – Reduction (%) in water consumption required to achieve objectives
• Improving hydromorphological conditions of water bodies (e.g. restoring river banks after livestock poaching) • Measures to prevent livestock access to surface waters • Construction or modernisation of irrigation infrastructure on surface waters (pumping stations, dams, reservoirs,	Morphological alterations linked to agriculture activities	• Percentage of agricultural land under management contracts to improve water management • Percentage of forestry land under management contracts to improve water management	• KN03 – Number of barriers required to be tackled for the achievement of objectives • KL04 – Length (km) or area (km^2) of river network that will be affected by the measures required to achieve objectives • KN10 – Number of fish/continuity passes required to be installed to achieve objectives. • KN26 – Number of sustainable drainage systems required for the achievement of objectives

Types of Measure financed under the RDP	Pressure being addressed	Target/Result indicators included in the CMEF[21]	Result indicators for measures available under the WFD[22]
etc.) • Construction or modernisation of drainage systems			
• Construction or modernisation of hard flood defence measures (dikes, weirs, retention walls, etc.) • Natural Water Retention Measures (e.g. floodplain restoration, remeandering, etc.)	Morphological alterations linked to flood risk prevention	• Percentage of farms participating in risk management schemes	• KA05/KL01 – Length (km)/Area (km^2) of bank/shore that require rehabilitation and/or restoration measures to achieve objectives • KL02 – Length (km)/area of bank/shore that will require removal of hard infrastructure for the achievement of objectives • KL03 – Length (km) of remeandering of straightened river channels required for the achievement of objectives • KN03 – Number of barriers required to be tackled for the achievement of objectives • KL04 – Length (km) or area (km^2) of river network that will be affected by the measures required to achieve objectives • KL05 – Length (km) of river with bed restoration measures required for the achievement of objectives • KA17/KL10 – Length(km)Area (km^2) of water bodies required to be restored or reconnected to floodplains to achieve objectives • KN10 – Number of fish/continuity passes required to be installed to achieve objectives

7. Conclusions

The rural development programmes offer MS and their regions an opportunity to tackle agriculture pressures on the water environment and to promote flood risk prevention. To support the design of a RDP's strategy towards water and flood management, MS and Regions should take advantage of the on-going work of their water colleagues, not only to take advantage of their knowledge on which measures would be the most useful, but also to avoid unnecessary work and to reduce administrative burden. Involving regional water agencies from the start - by requesting input to the SWOT and to the development of the needs for the territory - would help to ensure that the RDPs finance measures that are needed most. Taking advantage of existing monitoring data and indicators developed under the WFD would also help to better track whether the measures being financed under the RDP are the most useful.

The RDPs offer a number of measures that if designed well can have significant positive impacts on reducing agriculture pressures on the water environment. However, it is essential to have a strong evidence base for selecting measures, which starts with having a comprehensive overview of the status of water bodies in the programme's territories and a clear understanding of which specific agriculture activities are negatively impacting water bodies. The RBMPs offer a great starting point for this information, but it is important that the RDPs provide territory specific information.

The RDPs have been around since 2000 and since the first programming period there have been significant positive improvements to agriculture practices within the EU, also with respect to making certain activities common practice as opposed to innovative (e.g. nutrient management plans). It is therefore important that the selection of measures continues to evolve with the improvements in the sector and that the RDPs therefore evaluate before each cycle whether the measures they want to offer represent clear commitments beyond the baseline and are good value for money. New measures should be explored, especially measures that take advantage of landscape scale (i.e. through farmer cooperation) in catchment areas.

Most importantly, measures that could potentially have a negative impact on water bodies (e.g. expanding irrigation, reservoir construction, dam and dike building) should be designed in such a way as to ensure that they do not lead to any deterioration in water body status. For irrigation, this starts with fully implementing and complying with the requirements of Art. 46. For investments like new pumping stations for irrigation, reservoirs, construction of technical flood defence or drainage systems, the RDPs should clearly outline how these activities will be subject not only to an environmental impact assessment but also to a screening with regard to the need for an Art. 4 (7) WFD assessment.

To exploit the positive impact that measures can have on water bodies, the targeting of measures through eligibility conditions is one way to not only ensure that areas with the greatest problems receive the greatest attention, but also to help focus financing to where it is needed most in times of constrained budgets. The targeting of measures may not be needed in territories where water bodies overall are in moderate status according to the WFD, as blanket support may be sufficient to elevate all water bodies towards good status. However, where the budget allocated to water is limited and the needs are high, it would be important to make a decision about where to target efforts, e.g. to water bodies with the most problems or water bodies of highest societal importance. A fundamental underpinning issue is having effective basic measures in place to address pollution, abstraction and morphological pressures at source so the RDP can contribute to more ambitious measures that clearly deliver public goods.

The 1st cycle of the WFD showed that many MS have taken advantage of the opportunities the RDPs offer in terms of supporting the WFD, given that many RBMPs list agri-environment-climate measures under the RDP as the main source of supplementary measures to tackle agriculture pressures in their catchments. As such, it would be beneficial for the RDPs to have a sound intervention logic for water management to take advantage of the synergies between the two policy fields. This is not only beneficial for achieving environmental objectives of WFD, but it is a win-win for agriculture administrations, who can better develop the most cost-effective measure programmes within their RDPs, and for farmers, who rely on good quality water for their agricultural production.

References

Dworak *et al,* (2009): WFD and Agriculture Linkages at the EU Level. Summary report on an in-depth assessment of RD-programmes 2007-2013 as regards water management. http://ecologic.eu/download/projekte/1900-1949/1937/final_report.pdf

European Court of Auditors (2014): Special Report. Integration of EU water policy objectives with the CAP: a partial success. http://www.eca.europa.eu/Lists/ECADocuments/SR14_04/SR14_04_EN.pdf

EEA (2011): Mapping the impacts of natural hazards and technological accidents in Europe. http://www.eea.europa.eu/publications/mapping-the-impacts-of-natural

EEA (2012): Climate change, impacts and vulnerability in Europe 2012, An indicator - based report. http://www.eea.europa.eu/publications/climate-impacts-and-vulnerability-2012

European Commission (2011): Note by DG Environment. Subject: Towards Better Environmental Options for Flood risk management. http://ec.europa.eu/environment/water/flood_risk/pdf/Note%20-%20Better%20environmental%20options.pdf

European Commission (2012): Commission Staff Working Document. European Overview (2/2). Accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans. http://ec.europa.eu/environment/water/water-framework/pdf/3rd_report/CWD-2012-379_EN-Vol2.pdf

European Commission (2012): Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions. A Blueprint to Safeguard Europe's Water Resources. SWD (2012) 381 final. http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0673&from=EN

European Commission (2013): Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52013XG1220(03)

European Commission (2013): Regulation (EU) No 1305/2013 of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD). http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R1305.

European Commission (2014): Commission Implementing Regulation (EU) No 808/2014 of 17 July 2014 laying down rules for the application of Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005. http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32014R0808

European Commission (2015): Communication from the Commission to the European Parliament and the Council. The Water Framework Directive and the Floods Directive: Actions towards the 'good status' of EU water and to reduce flood risk.
http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0120&from=EN.

European Commission (2015): Technical Handbook on the Monitoring and Evaluation Framework of the Common Agricultural Policy 2014-2020.
http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=21095&no=3

European Commission (2015): WFD Reporting Guidance 2016.
http://cdr.eionet.europa.eu/help/WFD/WFD_521_2016/Guidance/WFD_ReportingGuidance.pdf

European Commission (2016): CAP Context Indicators 2014-2020.
https://ec.europa.eu/agriculture/sites/agriculture/files/cap-indicators/context/2016/indicator-table_en.pdf