The EU Water Framework Directive:

Beyond the analysis of the partial success

July 2019
EEAC Working Group on Fresh Water Affairs



The Network

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Introduction

In the run-up to its third management cycle, the EU Water Framework Directive (WFD) is under review. Public consultation (part of the WFD fitness check) took place throughout March 2019. Early 2019, the European Commission launched its fifth WFD Implementation Report. These processes shed light on the partial success of the WFD's implementation.

Already in 2018 (26 June) the EEAC Working Group on Fresh Water Affairs had organised a round-table session on the WFD, titled "The WFD: What happened and what's its future?". Three issues stood out for the EEAC Network:

- Lack of proper funding;
- Limited uptake of the WFD's economic thinking;
- Lack of a paradigm shift to a systemic approach in water policies.

To discuss possible solutions to these issues, the EEAC Working Group on Fresh Water Affairs organised a second round-table session in Brussels on 19 June 2019 under the heading "The WFD: beyond the analysis of its partial success". The Working Group once again invited a selection of national, subnational and European stakeholders to join the advisory bodies, with a view to stimulating information-sharing and informed debate.

The mainline summary is structured along the lines of the three main themes (1. Funding, 2. Economic thinking and 3. A systemic approach). It includes an introduction (starting point of the debate) to each of the themes, a status report and a summary of suggested solutions to overcome the issues affecting the three main themes. At the end of this document, some preliminary recommendations are presented, with the aim of supporting discussions in the EEAC's member councils on the topic of the implementation of the WFD, as well as its future.

This summary, and the preliminary recommendations contained within it, were drawn up by myself in my capacity as Chair of the EEAC Working Group on Fresh Water Affairs. They are not directly binding on the three speakers, the participants to this round-table session, nor to the advisory councils that are part of the EEAC Working Group on Fresh Water Affairs. However, I sincerely hope that the summary proves useful in some shape or form towards achieving the targets of the Water Framework Directive by 2027.

Jan Verheeke

Chair of the EEAC Working Group on Fresh Water Affairs

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1. First part of the session: lack of adequate finance?

1.1. Starting point of the discussion

The implementation of the WFD requires significant investment from public authorities, citizens and private actors. In the Fitness Check process, the funding provided at EU level for measures and for research, was identified as a factor that has contributed to the objectives of the Directive. At the same time the overall lack of funding to implement measures is seen as a possible factor that has hindered the achievement of those objectives so far.

The possible lack of financial resources was also identified as a potential explanation for the partial success of the WFD during previous discussions in the context of the EEAC Working Group on Fresh Water Affairs (hereafter the working group). In the 2018 session, the working group concluded that budgetary constraints were already evident before the existence of the Water Framework Directive, i.e. at the level of what the WFD now labels the "basic measures". In addition, within the implementation process of the WFD, the budgetary situation seemed to have worsened due to the financial crisis of 2008 and its aftermath. However, is the assumption – that a lack of funding goes some way towards explaining the partial success of the WFD implementation in 2019 – fully valid?

In order to test the assumption, the working group last year underscored the need for an investment gap analysis at the European – and/or at the Member-State level. Consequently, the members of the working group welcomed the analysis conducted by the OECD and the European Commission. The analysis was presented by Xavier Leflaive (OECD) in the form of a presentation titled "Assessing member states' investment needs and financing capacities for water supply and sanitation"¹. In this study, the OECD looked into water-related investments to 2050 with regard to A) Water supply; B) Wastewater collection and treatment and C) Flood protection. It hasn't been possible yet to extend the study to include the measures needed to comply with the WFD. However, the analysis still provides an important first step in answering the question whether not enough budget has been – and will be – available in all Member States to invest in water policies.

1.2. What stands out?

When assessing the average level of Water and Sanitation Sector Expenditures² (WSS expenditures) per capita for the period 2011-2015 vis-à-vis the percentage of WSS expenditure in total Gross Domestic Product (Figure I), it becomes apparent that the situation varies significantly between countries in Europe. Several countries – despite having some of the lowest expenditures per capita – face considerable overall macro-economic pressures from WSS expenditures. In the cases of for example Bulgaria and Romania, a relatively low WSS expenditure per capita is achieved, but the percentage of GDP used to finance WSS expenditure is relatively high. It should be noted that Figure I gives a picture of what is spent, and does not answer the question as to whether or not this spending is coherent with the policy objectives.

¹ The OECD presented preliminary findings which are subject to adjustments. The final study is expected to be published in October 2019, and the official outcomes will be presented at the water directors meeting in that month. A round-table session on financing water will be organised in early 2020.

² Expenditure on flood projection could not be monetised in most countries and is therefore outside the scope of the OECD/European Commission's gap analysis.

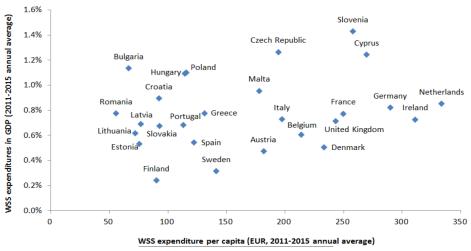


Figure I: Source: OECD analysis based on EUROSTAT (WSS-related public and household expenditures, GDP, pop

In order to get an answer to the question of coherence, an assessment was made on the need for additional expenditures by 2030, split into three parts: (1) Business As Usual (BAU), including demographic evolutions, (2) compliance + efficiency gains in the water supply and (3) compliance in Waste Water treatment. See Figure II.

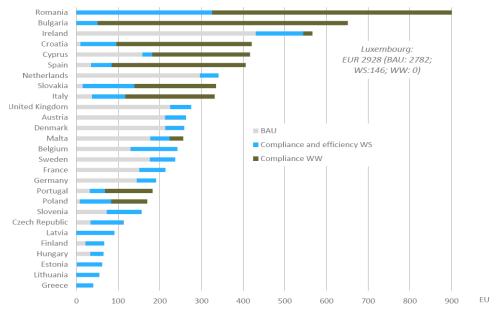


Figure II: Source: OECD analysis base on Eurostat and European Commission Data

From this bar graph (Figure II) it becomes apparent that increased investment is needed across the board. However, the **level of investment required** to close gaps differs, as well as the ability and willingness of Member States to bear additional cost³. What also stands out is the fact that Member States that are already spending a large percentage of their GDP on WSS expenditures face the biggest increase in expenditure required to meet the 2030 targets.

³ Note that these preliminary figures reflect countries' projections, and are under discussion, e.g. in the cases where no further investment need is foreseen.

The **financial resources used to fund WSS-expenditures** come from either the public budget or revenues from water tariffs. Figure III shows major differences in the share of the public budget or revenues from water tariffs, used to pay for WSS-expenditures in EU Member States. Countries like the UK and Denmark have a very high cost-recovery rate, while a country like Ireland has almost none.

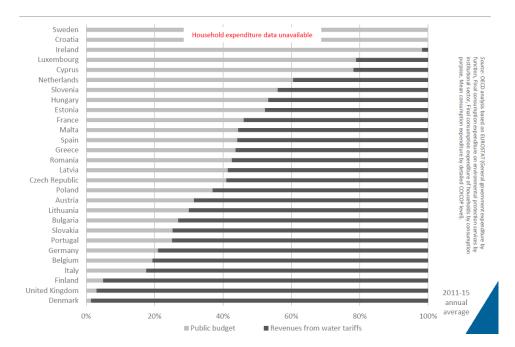


Figure III: Source: OECD analysis base on Eurostat

Moreover, it became clear from the OECD figures that in some countries a very large part (up to 80%) of the public budget comes from EU funds⁴. Because this EU funding cannot be assumed to be a given, the financial sustainability of this approach is problematic.

While the WSS expenditure in GDP provides an indication of affordability at country level, the **percentage of WSS spending in household disposable income** provides an image of affordability on a micro scale (Figure IV). As a first rule of thumb, any spending above 3% is certainly a reason for concern. There is a need for well targeted accompanying measures for vulnerable groups. Besides that, the spread on the horizontal axis gives some information about distributional issues and the inequality on this topic.

⁴ It should be taken into account that it is assumed that EU transfers are always channelled through the domestic budget of each Member State and that they are, therefore, not additional to government expenditures.

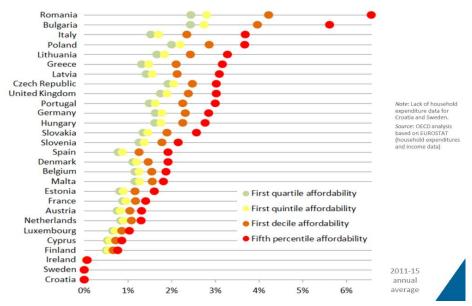


Figure IV: Source: OECD analysis based on Eurostat (household expenditures and income data).

What thus stands out is that while the WSS expenditure per capita is relatively low in countries such as Romania and Bulgaria, compared to some other EU Member States (see Figure I), the share of WSS expenditures in households' disposable income (see Figure IV) is relatively high. The same goes for WSS spending as a percentage of GDP, as well as for the level of dependence on EU funding. Consequently, these countries have neither in macro-economic terms (GDP, external funding) nor in terms of households' disposable funds much **room to increase WSS-expenditure**: e.g. a shift from current tariffs towards full-cost recovery of current expenditures would lead to serious problems in terms of affordability, as can be seen from Figure V. More on the issue of cost recovery can be found in part II of this mainline summary.

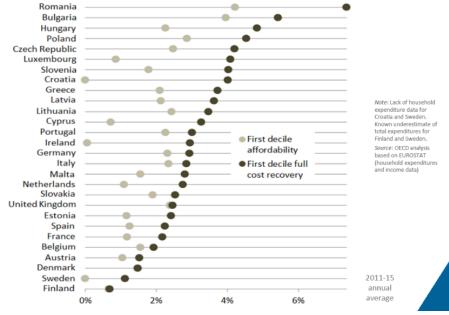


Figure V: Source: OECD analysis based on Eurostat (household expenditures and income data).

1.3. Discussion: what can be done

In order to overcome a (possible) lack of proper funding, the round-table participants discussed several potential solutions.

First of all, it was recommended that an attempt should be made to reduce investment needs. Minimising such needs can be done by taking care to avoid creating future liabilities, e.g. through thoughtful spatial planning, avoiding development of vulnerable infrastructures and activities in areas with high flood or drought risks.

Another important area of work is to ensure enhanced (more efficient) operation of existing assets through implementation of state-of-the-art asset management, through reducing operational costs and through timely investments in renewing infrastructures (and thus reinvestments).

A further recommendation was to make the best use of available resources. Planning processes need to be improved to bridge the gaps between the governmental "silos" and to make sure the link between planning and projects is improved, in order to avoid projects being implemented that are not really necessary for compliance with the WFD.

Also, the concepts of "nature-based solutions" and/or "green infrastructure" need to be further explored, as options that could be less costly, taking into account multiple benefits.

In addition, the round-table participants discussed the role of EU structural funds. The rules for spending such funds create a tendency to move towards major (infrastructural) projects and structures. This potentially prevents people from focusing on aiming for attainable goals and/or utilising available resources in an optimal manner. Although there is already a conditionality built into the European Structural and Investment Funds 5 – focusing on the implementation of article 9.1 – this doesn't involve a quality check of the analysis and implementation.

Besides minimising investment needs, making best use of available resources and utilising technical innovations, enhancing the quality of investments was put on the agenda. More often the question should be raised whether a proposed investment is the best one to be made, in order to meet the challenge. The participants concluded that, to this end, economic thinking in the WFD should be strengthened.

The persistence of policy incoherence, both in water policy (flooding directive) and especially between water policy and agricultural and transport policies⁶, remains a major problem. An important first step here could be to ensure that implementing measures under these policies do not lead to deterioration of the status of water bodies.

The working group also discussed the role of technical innovations and how these could help to close investment gaps. It was noted that technological innovations will only become competitive in the right policy framework and the right socio-economic environment: the water pricing policy is crucial to make investments profitable e.g. in terms of leak reduction or water re-use.

⁵ An ex-ante conditionality for water exists under the Common Provisions Regulation for the European Structural and Investment Funds for the period 2014-2020 – see

https://ec.europa.eu/regional policy/sources/docgener/guides/blue book/blueguide en.pdf

⁶ Source: Support to the Fitness Check of WFD and FD. Third Stakeholder Workshop. 3 June 2019

Another topic – related to the concept of economic thinking – was the discussion about crowding in new sources of finance. Although the concept of *beneficiaries/polluters pay* is still a complex issue (see part II), the opportunities offered by the concept should not be dismissed. The working group agreed that new sources of finance could for example be found – through the beneficiaries principle – among property developers or others who benefit directly from investments in water policies.

To conclude, the role of domestic commercial finances was also discussed as part of the debate on new sources of finance. For example, the idea of using public funds to cover possible risks of privately financed investment was welcomed. It was however added that financing the initial investment in infrastructure doesn't solve the problem: in order to be sustainable, the incomes have to cover both operational costs, and provisions for replacement and maintenance. The fact that these costs are typically lower for green infrastructure, is an important point to take into account in the economic analysis.

2. Second part of the session: limited uptake of economic thinking

2.1. Starting point of the discussion

The WFD requires EU Member States (1) to base their water management policies and measures on cost effectiveness analyses, (2) to implement the principle of cost recovery as well as incentive pricing, and (3) to define exemptions in terms of disproportionality of costs. As fulfilling these obligations would have the potential to solve at least part of the lack of proper funding, it is surprising that they were only rather poorly implemented. For example, just half of the second series of River Basin Management Plans (RBMPs) include an effective incentive system and a transparent water pricing structure.

The 2019 implementation report on RBMPs by the European Commission⁷ noted that steps were being taken towards defining water services, calculating financial costs and assessing both environmental and resource costs, when calculating cost recovery levels for water services. Still, in only half of the Member States environmental and resource costs are calculated for all reported water services, and significant gaps remain in translating the elements of economic analysis into concrete measures and achieving more harmonised approaches to estimating and integrating environmental and resource costs.

Already in its round-table session of 2018, the working group had concluded that a certain renewal of cost-effectiveness thinking would be necessary in order to be adequately applicable within the field of integrated water policy. However, what changes should be made to enhance this economic thinking?

2.2. What stands out?

Several elements of economic thinking are relevant for the WFD. These elements interact but serve different purposes. Following the presentation by Andrew Farmer (IEEP), the round-table participants identified the following main elements of economic thinking with the framework of the WFD: (1) Cost assessment of measures, with the aim of informing planning; (2) Benefit assessment, with the aim of informing stakeholders; (3) Cost effectiveness, in order to deliver cost efficiency; (4) Cost recovery, as a tool for sharing the economic burden and (5) Payment for ecosystem services.

The idea that **cost assessment of measures** should be a basic element of planning seems to be a truism. But, although all River Basin Management Plans (RBMPs) do contain elements of cost information, the information is sometimes limited to some operational or capital costs. Only 1/3 of the Member States reported all information requested and only three Member States provided full information for all River Basin Districts (RBDs).

Furthermore, analysis of alternative measures with alternative costs is even harder to find. Answers to questions such as 'why has this measure been chosen?' or 'why have measures not been adopted?' are often not addressed, especially in terms of costs. As also became apparent from the talk on financing water policies (part I of the mainline summary), the lack of proper cost assessments weakens economic thinking quite severely.

⁷ https://ec.europa.eu/info/sites/info/files/com_report_wfd_fd_2019_en_1.pdf

Another important omission is that there is still a lack of analysis of the costs of possible measures compared to the **benefits** they might bring. Comparing benefits to costs of measures should provide an additional justification for applying measures. However, as can be seen from cases where disproportionate cost arguments are made, discussions are often limited to the absolute cost, and do not take into account the fact that cost might not be significantly higher than possible benefits. All in all, there is a case for enhancing benefit assessments in economic thinking. At the same time, there are a few challenges that need to be dealt with.

Firstly, a major challenge – in order to be able to understand how measures affect pressures, change status and deliver benefits – is the complexity of the interactions that need to be studied. Sometimes there are a limited number of interactions, but most of the time the interactions are (very) complex. Multiple pressures could be affecting the status, while several measures could be affecting a pressure and, moreover, one benefit could lead to another. An example of such interactions/relations is displayed in Figure VI.

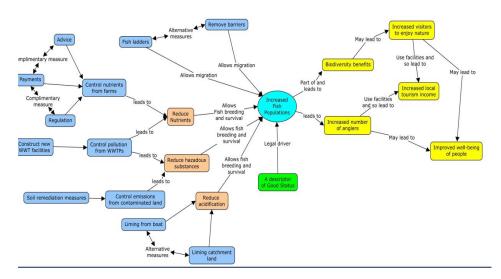


Figure VI: Source: Institute for European Environmental Policy, presentation by A. Farmer.

A second challenge – when trying to argue for money to be spent on measures to deliver benefits – is how the law prescribes what exactly is to be delivered. EU water law aims to deliver a range of benefits (health, biodiversity, economic, etc.), but only a few items of law focus on the benefits themselves as the legal obligation. Instead, laws may include technical obligations (such as levels of water treatment) or an environmental quality objective (e.g. chemical standards or Good Ecological Status). Although meeting these legal obligations requires measures, the link to the related benefits may not always be clear.

The measurement of **cost effectiveness** also requires improvement. Although the assessment of relative costs of alternative approaches (what, when, where, etc.) and the assessment of whether a measure will deliver the specified objectives are basic, not much information is made available on these assessments in RBMPs. This finding is in line with the analyses made during the part of the session on financing water policies (part I of the mainline summary).

A rather remarkable matter that potentially also hinders cost effectiveness, is other, adjacent, EU law. Often Member States seem to be disposed to heavily rely on measures to be taken under other EU obligations in order to avoid the problem of cost effectiveness approaches. If one for

example has to build a Wastewater Treatment Plant under the Urban waste water treatment directive anyway, why worry about the issue of cost effectiveness? Building the plant is required by law, so implementation is successful as soon as the plant has been built.

Cost recovery is another important element of the economic thinking that is required in the philosophy of the WFD. As was already presented when discussing financing water policies, (full) cost recovery can become rather problematic where the percentage of households' disposable funds needed to finance WWS expenditure is already high. Additional difficulties in achieving (full) cost recovery are related to demographic developments in some Member States. If, in a certain region, the number of people (especially in rural areas) who are available to pay for WWS expenditures decreases, while WSS has to be maintained to meet compliance (Waste Water) and Compliance + efficiency (Water Supply), cost recovery becomes increasingly problematic and mechanisms must be developed to ensure the economic burden is shared fairly. As a consequence, the debate about cost effectiveness and (full) cost recovery leads to a debate about fair distribution. Who pays and who benefits? At times, a less cost-effective measure will be taken in order to avoid distributional tensions, a decision that could potentially harm the strict application of the cost effectiveness approach.

Unlike traditional subsidies, financed by taxpayers, **Payment for Economic Services** (PES) is in theory financed directly and voluntarily by the beneficiaries of the PES. However, when implementing PES in practice, it becomes quite immediately apparent that it is rather difficult to define the services that the beneficiary receives. Often these services are considered to be free-for-all, and it is therefore a potentially complex task to make people willing to pay for them. Furthermore, it is complicated to relate projections of the service to Good Ecological Status: often private PES arrangements are linked to specific services, rather than supporting the overall WFD outcomes. Finally, there is a potential incompatibility between the PES approach and the "polluter pays" principle.

2.3. Discussion: what can be done

To enhance benefit assessments, the IIEP developed the <u>blue 2 approach</u>. With this project IEEP aimed to develop a methodology to analyse the links between measures, the change in the status of Water Bodies and the costs and benefits generated. The session participants stressed that more attention needs to be paid to understanding these interactions (measures affect pressures, change status and deliver benefits) and that it is crucial that water managers are provided with knowledge and tools to deal with this complexity, in order **to ensure a good comparison of costs and benefits** of alternative measures, since there may be alternative (more effective and efficient) measures that address the same pressure.

It was acknowledged by the participants that "perfect" cost-benefit analyses are not possible, given limitations in available data, capacities and knowledge. However, there was consensus that even a limited assessment, if it is transparent about its limitations and uncertainties, is far better than none.

Blue 2 was well received by the participants, because of its focus on a bottom-up approach, concentrating on Water Body level analysis rather than on a broad EU level analysis, and because the method is not solely relying on monetisation (multi-criteria approach).

In the round-table session, participants also stressed the importance of choosing **the right scale** and going **beyond "monetisation"**. It was noted that economic thinking should support

policymaking, it should not replace it. In the light of this last claim, the question was raised whether **the concept of value** would not provide a more fruitful framework to have discussions on more fundamental issues.

More attention is needed for the question "why are we conducting an analysis"? The idea that a/one (monetised) economic analysis may be used simultaneously both to help public authorities to choose between investment options and to gather societal support for certain measures needs to be questioned, because these types of decision processes are not completely similar, nor are they completely rational, as is often assumed, as well as because the scale and the issues that are under debate may be (too) different.

The session participants shared the analyses that time is "our friend" when it comes to achieving better cost effectiveness. The current strong focus on WFD delivery for 2027 is expected to challenge River Basin Managers (RBMs) in determining if measures will actually deliver. If, as the working group argued, the pressure mounts, cost questions are readily linked. Also, the realisation that a good cost-effectiveness analysis is a good communication tool and can be powerful if alternative measures affect different sectors, should enhance cost effectiveness thinking among RBMs.

The round-table participants also concluded that the economic burden needs to be shared as fairly as possible. A well-attuned cost recovery system could help achieve this, but needs to take **distributional issues** fully into account. It is important to make sure that the cost between urban areas and rural areas is well balanced. This requires good regional cooperation and enhanced economic analyses to be carried out.

The pressure to apply measures will be potentially beneficial to the implementation of the payment for ecosystem services (PES) concept. PES could be used as an instrument to enhance the transition of farmers' business model. This would mean that the payment scheme would not be static, but move from a "classic" PES (paying farmers to reduce pressure is a rather well established concept) gradually towards an approach closer to the "polluter pays" principle. In such cases, PES would be a useful instrument to enhance a just and timely transition within the agricultural sector in relation to fresh water. This may be a way of overcoming the challenge that PES measures may impact on the level playing field and lead to market distortion (as does an unequal implementation of cost recovery).

3. Third part of the session: lack of a paradigm shift to a systemic approach

3.1. Starting point of the discussion

A third possible starting point for explaining the partial success of the WFD and its implementation, is the thought that the paradigm shift to a systemic approach, which it was claimed was central to the WFD, has only been partially integrated into the water policies of the Member States. This might well be the least tangible explanation, because it is difficult to link it directly to requirements and instruments of the WFD. At the same time, this explanation might well touch upon the most fundamental cause.

The systemic approach underlying the WFD is based on the Driver-Pressure-State-Impact-Response (DPSIR) framework and is intended to provide a systemic understanding of the relationship between environmental impact, environmental quality, the causes thereof (i.e. the pressures), the societal drivers of these causes and the measures taken. In a systemic approach, the focus would be on the real drivers and pressures: after all, water pollution, over-abstraction and structural changes arise from specific human activities and economic sectors.

The systemic framework of the WFD was intended to result in a **holistic approach** in which "Good Environmental Status" --would mean that the water system is such that social, ecological and economic requirements can be met simultaneously and in the long term. Measuring the state of a system would imply the use of **indicators** that provide synthetic and action-oriented knowledge. The actual status of a water system would be interpreted as an indicator of the gap between the current state and the desired "good status". In practice, however, water policy indicators have not been used as synthetic knowledge instruments, but as analytical instruments to initiate or continue specific policy measures.

The EEAC Working Group on Fresh Water Affairs concluded in its 2018 session that there seems to be a lack of systems thinking in the implementation of the WFD. Programmes of measures seem to concentrate on **symptoms**, rather than on the **causes** of water degradation (the pressures). In the working group's discussions, participants had however noted that it is often unclear how a "systems approach" could be implemented. Important questions remained on **the scale** at which a systems approach would be most relevant, what **data and tools** are readily available and how knowledge gathered from **good examples** could be made operational for local/regional water managers with limited money and time. The group had noted that there is **no common implementation guidance document** on the topic of selecting and implementing the measures with high systemic relevance. The feasibility and usefulness of such a document require further discussion.

One specific topic is the debate on the "one-out, all-out" principle, where polarised views exist between those policy-makers and pressure groups who state that the application of the process is an actual barrier to the achievement of the objectives and others who consider it merely a challenge in terms of communicating results. In the 2018 session, it was concluded that this principle could constitute a barrier precisely because of the communication problems: due to a lack of systems thinking, the application of the principle may lead to a focus on symptoms and thus guide policies and measures away from drivers and pressures. The previous session concluded that the "one-out, all-out" principle should be preserved as a scientific principle and fundamental element of the WFD, and that indicators should be used as systemic knowledge instruments. The question remained as to how this could best be achieved.

3.2. What stands out?

The presentation – provided by Prof. Carvalho⁸ – built further on the insights gained in the MARS project⁹ and zoomed in on a number of good examples¹⁰ of **systems thinking in the form of integrated RBM plans** and, consequently, on lessons learned for the EU fitness check.

The starting point for the discussion was the acknowledgement that one of the major achievements of the implementation of the WFD, is that it delivers **relatively consistent Europe-wide data**, and thus provides a relatively clear picture of the status of European waters. "Relatively" — because there are still knowledge gaps on some aspects of the status of waterbodies, and major differences in status assessments between Member States (e.g. number of biological quality elements taken into account).

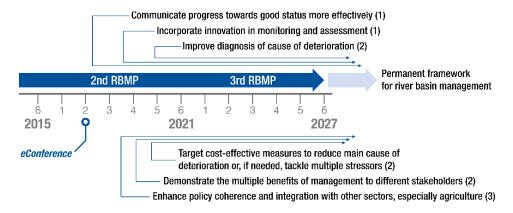


Figure VII: main recommendations from the MARS project. Science of the Total Environment (2019) 658: 1228–1238

The Mars project identified several issues, with regard to monitoring and assessment, that should be considered in the light of the fitness check. First of all, the "one-out, all-out" principle. The MARS project pointed out that, when different quality elements respond to the same stressors, the application of the "one-out, all-out" principle compounds uncertainty in individual elements and may thus lead to an over-zealous implementation of the precautionary approach.

Another problem is that a status assessment does not generally identify the **cause of degradation**: the final status is merely an indication of the system's response to many pressures. The challenge is thus to detect the main driver(s) under multi-stressor conditions – in order to select the proper, (cost)-effective measures. The MARS project generated new insights¹¹ and produced tools¹² for this.

With only 40% of surface waters in good ecological status or better, and limited change in status between 1^{st} and 2^{nd} River Basin Management Plans (RBMPs), three challenges can be identified

https://www.vesijarvi.fi/en/frontpage/

www.openness.hugin.com/caseStudies/LochLeven_Habitat http://naiad2020.eu/

⁸ Prof. Carvalho was unexpectedly unable to participate in the meeting. His contribution was presented by Wim Van Gils (Minaraad). The elements thereof were immediately picked-up in a process of exchanging ideas.

⁹ http://www.mars-project.eu/

¹⁰ https://www.ymparisto.fi/en-US/Waters/Restoration_of_water_bodies

¹¹ http://www.mars-project.eu/index.php/fact-sheets.html

 $^{^{12}\} http://www.mars-project.eu/index.php/tools.html$

that might cause the limited impact of the RBMPs. (1) Firstly, if active participation remains limited, there is a **risk of low ownership** of the problems either by society or industry. (2) Secondly, there is the challenge of insufficient mechanisms and funding, in order to **organise societal and sector buy-in** on the appropriate scale to implement measures. (3) Thirdly, and in relation to diffuse sources of pollution or degradation, the selected basic and supplementary **measures are often insufficient** to deliver success.

The question is then whether a more systemic approach – as a way of organising governance – would deliver better results. There seem to be some indications that this might be the case. The examples from the presentation show the importance of **knowledge transfers**, based on robust data and demonstrations of cost-effective measures. The framework of **ecosystem(s)/(services)** would make it possible to highlight multiple benefits and strengthen societal support. **Community ownership** and **financial incentives** could be used to improve cooperation between and ownership among stakeholders. However, poor policy integration remained a constant hurdle when trying to get to a more systemic approach. Integration remains poor within water policy (e.g. WFD vs Flooding directive), as well as between water policy and several sector policies (e.g. CAP vs WFD). The way forward would be to **start seeking integration or harmonisation** at the level of the policy goals.

3.3. Discussion: what can be done

To enhance **monitoring and assessment**, further innovations should be utilised. The round-table participants identified solutions such as using (1) remote sensing, (2) DNA-sequencing and (3) citizen science as potential ways to enhance monitoring and assessments, while reducing cost and increasing effectiveness through a greater coverage and a more consistent measurement across Europe. Furthermore, a more flexible **design of monitoring networks** (differentiation between status and trend monitoring) may add to that. Finally, **landscape experiments** should be added, to assess and communicate the benefits and effectiveness of measures.

With regard to the "one-out, all-out" principle, the participants discussed the possible usage of a "weight of evidence" approach, taking into account the (un)certainty of the status assessment of the individual quality elements. Furthermore, greater attention should be paid to the constituent elements of the monitoring process. Overall, there is a need to use monitoring data more holistically and effectively to improve water management decisions.

WFD has delivered a great increase in knowledge of the pressures and state of European waters. Today's challenge is to use that knowledge more effectively now to drive policies towards solutions for River Basin Management. Such effective solutions need a systemic approach, in the form of a greater community and cross-sector participation and more ownership underpinned by robust science. To deliver an effective systemic approach, three ways forward were discussed.

Firstly, the session participants agreed that it is necessary to create manageable structures
 ("catchment units") for restoration. The designation of the structures needs to take into
 account temporal and spatial scales of ecosystems, legislative units, and policy agendas.
 Government structures need to be adjusted to the local/regional situation, to avoid a "one
 size fits all" approach. Within these structures, a "promotor" of the system itself should be
 present: a designated party with a clear and unequivocal role to play in promoting the good
 status of the water system that is being managed.

- Secondly, it was noted that it is important to provide credible demonstrations of the social, economic and biodiversity co-benefits of WFD measures in order to make the value of water more tangible to the community. An important step in this process is making sure that there is enough credible information underpinning the value of water to the community (through e.g. an ecosystems approach) and the benefits that can be expected from measures, i.e.: make all decisions water-wise. While it was acknowledged that showing these benefits might be easier in situations where the water resources are private, there was general agreement that the challenges of implementing the provisions of the WFD regarding participation and economic analysis, could not be used as an argument for privatisation. It was remarked that the WFD points out in its first preamble that "water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such."
- Thirdly, getting the **participation-processes** right is important to make sure the whole process is being perceived as positive and fair. Instruments like citizen science and cooperative platforms can help build ownership of the problem, resulting in taking on the (financial) responsibility for implementing measures. This is particularly important for involving the farming community. In a pilot project, the creation of a strong cooperative platform between farmers and agencies, incorporating 2,500 farmers from 7 countries, enhanced insights with regard to cost-effective measures and resulted in a rapid and increased uptake of innovative measures¹³. On a more local scale, farmers often have strong ties to local communities. If there is a possibility of mobilising the community, including the farmers, and creating ownership and a sense of shared values, the willingness to take measures will increase rapidly.

The session participants also discussed the concept of "missions", as proposed in the Horizon Europe programme¹⁴, to overcome the challenge of moving the general feeling from "we have to do something" towards "we want to do something". In this Horizon Europe programme, the formulation of inspiring missions is aimed at creating ownership with different stakeholders. For example, mission Area 3 is titled "Healthy Oceans, Seas, Coastal and Inland Waters". Within this area, several specific WFD-related missions could be formulated, based on systems analysis. They could provide the basis for launching demonstration projects to show the benefits of restoration and thus contribute to the switch in thinking about water as being something "mundane" to being something valuable.

To conclude, it was noted that the water community has worked hard to bring other sectors to the table in the governance structures and participation processes implementing the WFD, which allowed those sectors to include their concerns in the process. It was suggested that this approach should be supplemented with efforts to put water **on the agenda of other stakeholders**, by reaching out to them. Making sure the key stakeholders understand the value of water to them will put water on their (investment) agenda.

¹³ https://ec.europa.eu/budget/euprojects/baltic-deal en

¹⁴ See Carvalho et al, 2019. https://data.consilium.europa.eu/doc/document/ST-7942-2019-INIT/en/pdf

Preliminary conclusions

Create a balanced vision on the problem of finance

Make sure to add sufficient governance quality in investment policies

Budgetary constraints are, in many cases, not the main problem in the implementation of the Water Framework Directive. Instead, the main gap to be bridged is the one of improving the quality of the governance determining the financial spending, making sure investment needs are well-considered, and quality of investments is maximised. Important areas for improvement are asset management, policy integration, a better link between objectives, planning and investments and a better process for selecting measures. To deal with these topics, further steps in system thinking and economic thinking are crucial.

Create perspective for the less well-off countries (EU)

Although lack of money and/or time isn't always the primordial problem, for some countries it still is of central importance. The countries that joined the EU after the entry into force of the WFD, have had less time to achieve the objectives. Simultaneously, the socio-economic situation in a number of those countries doesn't really allow them to significantly speed up spending rates on water policy, i.e. without creating unacceptable societal problems, as can be seen from the OECD figures. EU funding is an important factor in bridging the gap, but this support is unlikely to be able to do so completely (for financial, governance and capacity reasons). In the fitness check conclusions, it should be made clear how these countries will be incentivised to keep up a pace that is both adequate, and fair.

Enhance policy integration in order to create synergies

The issue of policy integration also requires attention. Both at national and at EU level, major challenges – but also major opportunities – exist in finding and creating synergies in policies. Firstly, in the water policies, where, depending on the level of integration, the implementation of the flooding directive can both help and hinder the achievement of the WFD objectives. Secondly, an integration with agriculture and transportation policies is needed at the level of objectives, within the framework of the SDGs. Policy integration is essential not only from a systemic point of view, but also to reduce investment needs and in order to get the economic principles and instruments working.

Enhance the uptake of economic thinking in water policy

Underline multiple benefits of solutions

In its previous session, the EEAC working group called for a rethink of the use of cost-effectiveness analysis. More and more complex policy decisions, with less tangible results, are to be expected. In this light, an oversimplified focus on cost efficiency as a way of policy evaluation ex ante, might lead to inaction. The methodology that is offered by multi-criteria analyses could prove useful, bringing into the picture the multiple (often non-monetised) benefits of potential solutions. This is especially true for investments made with EU funding (e.g. structural funds), where it is crucial that the spending rules are changed to make sure multibenefit solutions (like "green infrastructures" or "nature-based solutions") are fully taken into account.

Introduce and/or strengthen Fairness in finance discussions

It is clear that affordability issues and distributional issues are not to be neglected in the implementation of the principle of cost recovery. For companies, a level playing field is equally important, especially for sectors competing on international markets. Nevertheless, this need for market fairness cannot be an excuse for preventing the introduction of adequate incentives in water pricing, badly needed to effect both behavioural change and the implementation of technological innovation. Consequently, it would seem important to shift from a principle of "full cost recovery" to a principle of "adequate contributions and transparency", to ensure fair pricing and fair distribution of the costs across different water users/ polluters

Create more certainty for investors

Dealing with uncertainty is a challenge at several levels and with many topics. The uncertainty about the effectiveness of measures can lead to bias in the selection process of measures, leading to easy- to-understand single-benefit investments into grey infrastructure, or even inaction. Well-documented demonstration projects and more participative means of making cost-benefit analysis, can help to resolve this. Moreover, reducing the uncertainty of the return on investment (risk) on certain investments could open the door to domestic commercial funding.

Look at the "polluter pays" principle and "payment for ecosystem services" idea from a dynamic, transitional point of view

Adding Payment for Ecosystem Services to the WFD toolbox could be a promising route, especially when it comes to engaging the farming sector. However, the concept of such payments seems to be at odds with the "polluter pays" (PP) principle, which was introduced in all environmental policies to maintain an economic level playing field. This tension could be turned into a driving force, by looking at it from a dynamic, transitional point of view, leading to a policy scheme with an original phase-in of PES, followed by a phase-out of PES and a phase-in of PP. The payments should therefore be aimed at bridging the transition towards business models with enhanced delivery of services: reduced pollution and sustainable water use.

Enhance systems thinking in water policies

Use indicators to identify root problems, and to select relevant measures

If indicators reveal that a waterbody does not have "Good Environmental Status", the first challenge is to identify the main pressures/drivers of the problem. Indicators should be looked at from a systemic point of view (i.e. holistic, and not analytical), taking into account the uncertainty in the assessment. Multi-pressure assessments are more often than not essential to get good insights. Tools have been developed for this, but it is not clear whether they are "plug and play" for the water managers, especially in the (many) situations where data gaps remain.

In addition to cost-benefit analyses, demonstrate that real, shared, values can be attained

Cost-benefit analyses are important for policy makers in terms of underpinning decisions, but they do not always lead to full acceptance of policies and measures by the community involved. Therefore, it is important to make the value of water and of the water system more tangible for communities. The above-mentioned multi-criteria analyses make it possible to include (eco)system services in the local community valuation of its environment – thus making it not only a tool for selecting measures, but also for public participation and, building on that, buying in stakeholders. In order to really get communities and target groups to engage with water policy measures, it is important not only to present the theoretical case of the improved water system,

but also to demonstrate in practice that the measures are attainable and will deliver tangible (ecosystem) benefits.

Deal pragmatically with imperfect governance structures

The existing governance structures seldom reflect fully the (systemic) principles behind the WFD. On top of that, issues of scale keep popping up in the discussions. Combining pragmatic governance structures — with problem-orientated networking at its centre and with system promotors that serve as catalysts — may be the fastest way forward.

Complete guidance documents with guidance processes

The idea of updating guidance documents, or creating new ones, as was suggested in the 2018 session, was not adhered to in this session. Drafting or redrafting guidance documents would be time-consuming. Moreover, it seems that, in this phase of the implementation, dynamic and interactive guidance processes (e.g. the country visits from the OECD, or the Environmental Implementation Review, including the peer-to-peer tools) are more suitable ways of improving the quality and speed of implementation.

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