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Participation in River Basin Planning Under the Water Framework Directive – Has it Benefitted Good Water Status?

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ABSTRACT: The participation of societal groups and of the broader public has been a key feature in implementing the European Water Framework Directive (WFD). Non-state actor participation in the drafting of river basin management plans was expected to help achieve the directive's environmental goals, but the recent literature leaves us doubtful whether this has in fact been the case. This study examines a structured online survey of 118 public water managers, covering the six biggest European Union states ofFrance, Germany, Italy, Poland, Spain and the UK. We assess multiple facets of participation, for example the involved actors, the intensity of communication exchange, and participants' influence on planning. Results show that participatory WFD implementation has included a wide range of actor groups but rarely citizens, and that there has been minimal provision for interactive communication. The value of active involvement to the reaching of environmental goals was assessed as limited and that of public consultation as insignificant. Participants who were actively involved mainly contributed by advocating for stronger environmental standards and by providing implementation-relevant knowledge. Potential reasons for the overall poor record of participation include the strong influence of agriculture and the lack of public interest. Our findings suggest that, in hindsight, the European Commission's conviction that participation benefits good water status appears overly naïve.

KEYWORDS: Active involvement, river basin management, ecological outcomes, mandated participatory planning, European water governance, participatory governance, stakeholder involvement

INTRODUCTION

High expectations accompanied the adoption of the Water Framework Directive (WFD) in 2000 (Directive 2000/60/EC) since it represented a "shift in the style of environmental policies" in the European Union (EU) (Kallis and Butler, 2001: 140). The directive represented a new form of European environmental

governance; it sought to harmonise water management on a river basin scale and thus overcome mismatches between the geographical scope of water bodies and political or administrative units (Kallis and Nijkamp, 1999; Moss, 2012; Voulvoulis et al., 2017). Highly ambitious goals were set to protect ecological water systems and to achieve good water quality in the EU (EC, 2002).[1] To achieve these goals, member states were required to formulate river basin management plans (RBMPs) and more operationalised programmes of measures (PoMs) through the collaboration of all "interested parties", or stakeholders (EC, 2000: 16).[2] The directive is the first European legislation representing a "mandated participatory planning approach" (Newig and Koontz, 2013: 1), which was seen as a possible future model for environmental governance in the EU.

After the assessment of results from the first and second cycles of RBMPs, these high expectations have been lowered because of implementation problems faced by EU member states (Domorenok, 2017; Voulvoulis et al., 2017). The objectives on the quality of surface waters had also not been met by the end of the first cycle in 2015 and are unlikely to be met by the end of the second cycle in 2021(EEA, 2018a). In Article 14, the directive links the success of its implementation directly to two forms of public participation; that is to say, public consultation is "required" and the active involvement of interested parties in river basin planning is "strongly encouraged". "Competent authorities" – which were assigned by the EU for each river basin district – were put in charge of the directive's implementation; they became responsible for conducting ongoing participatory processes that included the provision of information to, consultation with, and active engagement of, all interested stakeholders (EC, 2003).

According to the directive, the competent authorities have considerable leeway as to the design and conducting of participatory processes. Participation has thus been implemented in different forms and at various intensities, both within and among EU countries (Wright and Fritsch, 2011; Jager et al., 2016a; Kochskämper et al., 2018a; Kochskämper and Newig, in press), and public officials within the competent authorities are key witnesses and agents of WFD implementation. Although there is early evidence that the intensity of participation is positively influencing the overall environmental standards of the RBMPs as well as their implementation (Kochskämper et al., 2018b), there is still a lack of knowledge on whether and how active involvement or public consultation have contributed to meeting the environmental goals of the WFD. This study therefore focuses on how public officials perceive the participatory processes they have been in charge of in light of the WFD environmental goals. We ask, 1) according to public officials involved in WFD implementation, to what extent have public consultation and active participation actually been carried out, and 2), to what extent is participation (active involvement and public consultation) perceived to be instrumental in enhancing the environmental quality of RBMPs and the implementation of measures to improve the status of water bodies. As each member state has its particular history of water governance (Jager et al., 2016a) – including public participation – we also study potential differences between countries.

Several studies have examined the implementation of participatory processes under the WFD; the field so far is dominated by qualitative research such as single case studies or cross-country comparative case studies (Liefferink et al., 2011; Kochskämper et al., 2018a), with a lack of quantitative studies (Boeuf and Fritsch, 2016). To fill this gap and provide an encompassing overview of participation in Europe, this article presents the results of a structured online survey conducted in late 2019 that analyses the perceptions of public officials who are responsible for water management in six European countries,

[1] Water status is assessed as good when the water body meets "certain standards for the ecology, chemistry, and quantity of waters" (EEA, 2018b: 12).

[2] In the article we use the terms 'interested parties' and 'stakeholders' interchangeably, as European documents do not differentiate between the terms; in Guidance Document No. 8 (EC, 2003: 11), for example, the European Commission defines interested parties (or stakeholders) as "any person, group or organisation with an interest or 'stake' in an issue, either because they will be directly affected or because they may have some influence on its outcome", whereby it includes "members of the public who are not yet aware that they will be affected" (EC, 2003).

namely France, Germany, Italy, Poland, Spain and the UK. Focusing on these six countries is relevant as, together, they constitute 70% of the EU's pre-Brexit population[3] and 58% of its running water.[4] The questionnaire was sent out in the six national languages to allow public officials to assess the implementation of participation and its instrumentality,[5] as well as to identify possible barriers during the overall WFD implementation. Extensive data was drawn from 118 respondents from 6 member states; it allowed us to not only find patterns within the country, but also to do a comparison of the countries in terms of their different participatory styles and the perceived benefits of participation in WFD implementation. The results represent valuable insights into public officials' perceptions of the role of active involvement and public consultation in meeting the ambitious goals of the WFD.

In the following section, we present the WFD's participation requirements, as well as concepts from the existing literature on how participation can be instrumental in improving the status of water bodies; that section also includes a short review of the different participation traditions in the various studied countries. The subsequent section outlines the methodology; it presents the survey sample, relevant aspects of the questionnaire, the procedure, and the analysis of the survey. This is followed by a section showing the results according to our research questions. Subsequent to that, we discuss how participation traditions in the six member states may have influenced the implementation of participation under the WFD; we also consider the implications for future WFD implementation of the perceptions of public officials regarding the instrumentality of participation. We conclude with overall reflections on the merits of participation for achieving good water status in the governance design of the WFD.

THE WATER FRAMEWORK DIRECTIVE AND PARTICIPATION

The WFD aims to improve the quality of Europe's water to the point where it reaches a good status for surface waters and groundwater. The directive's implementation follows two main principles. First, water management in river basin districts is based on hydrological units rather than political-administrative scales; this is in order to overcome possible spatial misfits (EC, 2000). Competent authorities also had to be established for each district (ibid); these competent authorities, however, could be assigned to different governance levels than the river basin level, for instance to federal states or districts as delineated by administrative boundaries (Green et al., 2013; EC, 2019a). Second, the assigned competent authorities must develop and implement river basin management plans and programmes of measures (EC, 2000) which are the central policy tools for WFD implementation (Koontz and Newig, 2014). Plans should be developed and updated in six-year planning cycles in a process that involves consulting and actively involving "interested parties" (EC, 2000: 16). RBMPs can also include sub-plans that are developed on smaller governance levels (Newig and Koontz, 2013; EC, 2019b); this leads to an "intricate multi-level structure for producing RBMPs" (Kochskämper and Newig, in press: 5), in which the accompanying participation can be realised.

Apart from a legitimising rationale, experts and non-state actors[6] can help competent authorities to manage uncertainties in specifying goals and choosing appropriate measures; they can do this by bringing together local and expert knowledge, potentially leading to more well-informed decisions (Newig et al., 2005). The European Commission clearly envisioned active participation "as a means to improve decision-making" (EC, 2003: 14); improved decision-making from participation occurs, for example, through

[3] The combined population of the six countries is 361.9 million; this constitutes 70% of the total 513.5 million population of the European Union. (Eurostat, 2020)

[4] The European Environment Agency (EEA) cites the total length of rivers in Europe as 1,273,233 km (excluding Norway); together, the six countries that are the focus of this paper have 743,026 km of rivers, which corresponds to 58% of the total length of European rivers. (EEA, 2018c)

[5] In this article, instrumentality summarises the extent to which public participation has been instrumental in achieving a high environmental standard of RBMPs, improved implementation of measures on the ground, and improved status of water bodies.

[6] Non-state actors are defined as organisations, groups or individuals that are not related to the government, such as water utilities, agriculture or NGOs.

increased awareness of environmental issues, a greater likelihood of innovative and creative solutions and feasible measures, and more enthusiastic acceptance by the public (ibid). The European Commission's rhetoric has in fact been particularly strong with regard to "getting the citizens involved – getting Europe's waters cleaner"; they claim that, "in achieving [the] objectives [of the directive], the roles of citizens and citizens' groups will be crucial" (Newig et al., 2014: 4).

In this article, a three-dimensional concept of participation is used to assess the "intensity" of participatory processes (Fung, 2006; Newig et al., 2018): 1) 'representation' is the dimension which refers to the range of stakeholders selected to participate; 2) 'communication' is the dimension which includes the type and intensity of communication as well as the direction of information flows; and 3) 'power delegation' refers to the extent to which participants can influence the decision taken.

As mentioned above, the WFD differentiates between public consultation and active involvement. Public consultation refers to asking "interested parties" for their "knowledge, perceptions, experiences and ideas" (EC, 2003: 12) in written or oral form.; active involvement – considered to be a higher level of participation – includes active contributions in face-to-face interactions which can go as far as "shared decision-making and self-determination" (ibid: 13). While the realisation of public consultation is an obligation, the realisation of active involvement is voluntary, although highly recommended by the guidelines accompanying the directive (EC, 2003).

Following these rationales, processes of intensive active involvement would be expected to improve the environmental standards[7] of RBMPs and PoMs as well as the implementation of measures on the ground. The environmental standards of the RBMPs can be improved through environmental advocacy by involved actors who represent environmental concerns; more well-informed decisions can also be made through incorporating environmentally relevant knowledge brought in by different knowledge holders. The environmental standard of plans can also be enhanced through intensive communication such as negotiation, dialogue or deliberation, identification of mutual gains, learning and innovation, and a common good orientation. Implementation of measures can be improved by increasing acceptance and by involving relevant knowledge holders who better inform actors in order that they may effectively implement measures on the ground (Newig et al., 2018; Kochskämper et al., 2018a).

Participation in six European member states

The implementation guidelines for active involvement that accompany the WFD leave room for interpretation (EC, 2003). Given different traditions in water management, and in administrative procedures more generally, participation in WFD implementation is handled differently by each of the six examined countries (Jager et al., 2016a). Below, we summarise important characteristics of participation in these countries, following the clustering suggested by Jager et al. (2016a) and Pellegrini et al. (2019a).

Pioneers of participation: France and Spain

France and Spain are both considered to be pioneers of participatory processes (Jager et al., 2016a; Kochskämper et al., 2016). In France, basin committees consisting of non-state actors, local government actors and state actors predated WFD implementation (Liefferink et al., 2011; EC, 2019b). Basin committees are responsible for the development of RBMPs on the river basin level, while on the local level water commissions composed of state representatives, local authorities and users develop their own water management plans (EC, 2019b). Stakeholders are consulted through platforms on both levels and are indirectly represented through the commissions' elected representatives (Pellegrini et al., 2019a). Participatory processes in France are thus characterised by a strong representation of interests and a high degree of stakeholder influence on the drafting of RBMPs (Jager et al., 2016a).

[7] Here, the environmental standard is defined as the extent to which RBMPs and PoMs are focused on effectively attaining the good ecological water status of water bodies.

Due to a long-standing tradition in Spain, water users participate in water management through river basin councils (Kochskämper et al., 2018c); working groups and workshops have also been established for WFD implementation in many river basin districts, which further extended the active involvement to additional actors and ordinary citizens (Kochskämper et al., 2016; Kochskämper et al., 2018c). Although participation is seen as highly intensive in terms of communication, the representation of interest is biased due to the strong representation of the interests of agricultural users (Jager et al., 2016b). Agriculture is the largest user of water and therefore it significantly impacts water management in the country (De Stefano and Hernández-Mora, 2012). In terms of power delegation, Pellegrini et al. (2019a) present empirical studies regarding participants' influence on proposed measures in the final RBMPs, the findings of which vary from case to case.

Extending participation: Poland and England

WFD implementation in Poland and England has required the broadening of participatory practices within established planning traditions (Jager et al., 2016a). Previously, little participation was provided for in Poland by the Regional Water Management Authorities (Blomquist et al., 2005). Water management councils represented platforms for information exchange between administrational governments and water users (Kowalczak et al., 2013); participation has only increased moderately since the accession to the EU in 2004[8] (Jager et al., 2016a) and it has continued to take place in the context of existing regional water management councils and in a national council of water management that acted as an advisory body in the planning process. Although Poland has put participation into practice by establishing several information and consultation mechanisms (Kowalczak et al., 2013), information flows have usually been one-way and communication intensity has not exceeded a moderate level (Hunka and de Groot, 2011; Jager et al., 2016a). Interests represented in the council have been biased by particular end users, and final RBMPs have been only moderately influenced by the consulted actors (Jager et al., 2016a).

In England, during the first cycle of WFD implementation, participation has been limited as there has been fairly exclusive involvement of particular interest groups. Indeed, the Environment Agency (EA), as competent authority, tended to involve only supporting organisations "with the potential to directly assist the EA", while other potential stakeholders with different water management agendas were kept at "arm's length" (Watson et al., 2009: 454). England established catchment partnerships in the second cycle of WFD implementation (DEFRA, 2013) and the new design of participatory processes is meant to involve more diverse actor groups and therefore represents a more inclusive approach (ibid). Indeed, Pellegrini et al. (2019a) assessed participation processes as being more participatory in terms of the communication among stakeholders; the main responsibility, however, still lies with the EA which follows a rather centralised, top-down approach, and the influence of catchment partnerships on the final RBMPs remains rather limited (Rollason, 2018; Pellegrini et al., 2019a).

Adaptation of participation: Germany

In Germany, competent authorities have been assigned to the 16 federal states, thus water management and participation are still dependent on administrative units (EC, 2019c). Guiding documents for water management were created in order to harmonise river basin management planning but they did not make provision for participation, though a variety of local participatory process designs exist across the federal states (Jager et al., 2016a). Before WFD implementation, participation in water management was limited to public planning procedures which were unbalanced in terms of the interests of stakeholders, who had minimal influence on decisions (Jager et al., 2016a; Schütze and Kochskämper, 2018). Due to the WFD, a variety of participatory institutions such as working groups and advisory boards were established (Jager et al., 2016a; Pellegrini et al., 2019a). The representation of interests remains

[8] Poland became a member of the European Union on 1 May 2004; as a prerequisite for accession it had to comply with the full EU legislative body, including the WFD (Kowalczak et al., 2013).

unbalanced, however, since users' interests – for example from agriculture – are better represented than those of the larger public and non-state organisations such as environmental concerns (Jager et al., 2016a; Pellegrini et al., 2019a). Participatory processes are characterised by a moderate information flow regarding consultation and recommendations; this limited impact of participation on final RBMPs is also stressed by Pellegrini et al. (2019).

State-centred approach: Italy

Although the Italian water governance regime meets the WFD requirement of a river basin management approach, the country has largely failed to establish participatory procedures because of time constraints and the difficulties of the implementation process (Domorenok, 2017). Since 1977, the central government has transferred some responsibilities in water protection to the regions that were established that year; it has not, however, established coordination mechanisms between the two levels of government (Domorenok, 2017; Pellegrini et al., 2019b). Instead of further opening up planning processes to stakeholders, public authorities at the regional level increased their own decision-making power (Domorenok, 2017); they preserved a more "top-down and technocratic approach" such as existed prior to WFD implementation (Pellegrini et al., 2019a: 15). Water policy has thus been seen as a "top down administrative exercise" (Massarutto et al., 2003: 12). Several participatory processes have been conducted at the regional administrative level with apparently low representation of interest groups and a low level of intensity of communication, as mainly state representatives were consulted through a one-way consultation process (Pellegrini et al., 2019a). No conclusive evidence exists that these participatory processes have influenced RBMPs and PoMs (ibid).

DATA AND METHODS

We conducted a structured online survey among public officials in France, Germany, Italy, Poland, Spain and the UK. The survey assessed the public officials' perceptions of the impact of participation on the environmental standards of the developed RBMPs and PoMs, on the implementation of measures, and on the quality of water bodies in their jurisdiction.

We targeted public officials at different governance levels of WFD implementation, including those involved in the design of RBMPs and PoMs and especially officials involved in organising participation. A literature search was conducted in order to identify all competent authorities in a given country (Appendix A, Table A1). Country-specific reports from the European Commission (EC, 2019b, 2019c) and from its website (EC, 2019e) provided information about the identity of the competent authorities and links to their websites; further information was added through additional literature, as cited in this article. To ensure a representative sample of respondents from the competent authorities, we contacted a broad number of public officials from different institutions who were operating at various governance levels in each of the six countries. While for some countries we could rely on previous research to identify public officials, in other countries we were dependent on open email addresses on the websites of the competent authorities; the number of identified contacts therefore differs from one country to another (95 contacts in the UK, 55 in Spain, 63 in Poland, 188 in Italy, 158 in France and 111 in Germany). The people contacted were also invited to forward our email to additional or more appropriate contacts. Since we had only one respondent each from Scotland and Northern Ireland and no respondent from Wales, the UK analyses were conducted with answers only from England. All questionnaires that were at least half finished by respondents were included in the analysis. In the end, we included 28 questionnaires from France, 11 from Spain, 7 from Poland, 10 from Italy, 11 from the UK (i.e. England), and 51 from Germany; in the end, a total of 118 questionnaires were analysed. Questionnaires were received in October and November 2019.

An online survey containing 45 questions, and ensuring anonymity to participants, was designed and launched through LimeSurvey. The survey's questionnaire was developed in English; however, in order

to avoid the exclusion of possible respondents because of language barriers, the survey was translated into the five national languages of the other countries and then the translation was revised by a native speaker from each country. While most questions were closed-ended on a five-point Likert-type scale, we also included a few multiple choice questions, two numeric questions, and one open-ended question inviting comments. The content of the questions in the survey (Table 1) followed our main research questions; it specifically focused on the potential mechanisms through which participation is expected to contribute to, or improve, the attainment of the WFD goals (see the section above on the WFD and participation). The whole questionnaire is available upon request.

Table 1. Structure of the questionnaire.

Main parts	Sub-parts
A. General information	Country Scale of operation Experience
B. Context	Pressures and drivers Quality of RBMPs/PoMs Interest
C. Realisation of active involvement	Goals Formats Actors Process characteristics
D. Outcomes of active involvement	Environmental standards of RBMPs/PoMs Implementation of measures
E. Realisation of public consultations	Goals Formats Actors
F. Outcomes of public consultations	Environmental standards of RBMPs/PoMs
G. Final questions	Implementation of measures Water status Overall assessment of instrumentality Future WFD cycles

For the statistical analysis, all Likert-scale questions were re-coded onto a quantitative scale from either zero to four (for example, from 0 = 'not at all' to 4 = 'extremely') or from minus two to two (for example, from -2 = 'strongly disagree' to 2 = 'strongly agree'). Means and standard deviations were first calculated separately for each country. To obtain figures regarding the whole dataset, the mean over the national means was calculated in order to avoid bias towards countries with a higher number of respondents. To compare the central tendencies (means) of the countries, the Kruskal-Wallis test for independent samplings was chosen, since values did not follow a normal distribution; the Kruskal-Wallis test provides an asymptotic significance for the differences between the countries. The Bonferroni correction was then applied on Dunn's post hoc pairwise test to identify notable differences between pairs of countries. The Wilcoxon test for dependent samplings was used to determine if the results on active involvement and public consultation were significantly different. For multiple choice questions, counted answers were set in relation to the total number of answers per country.

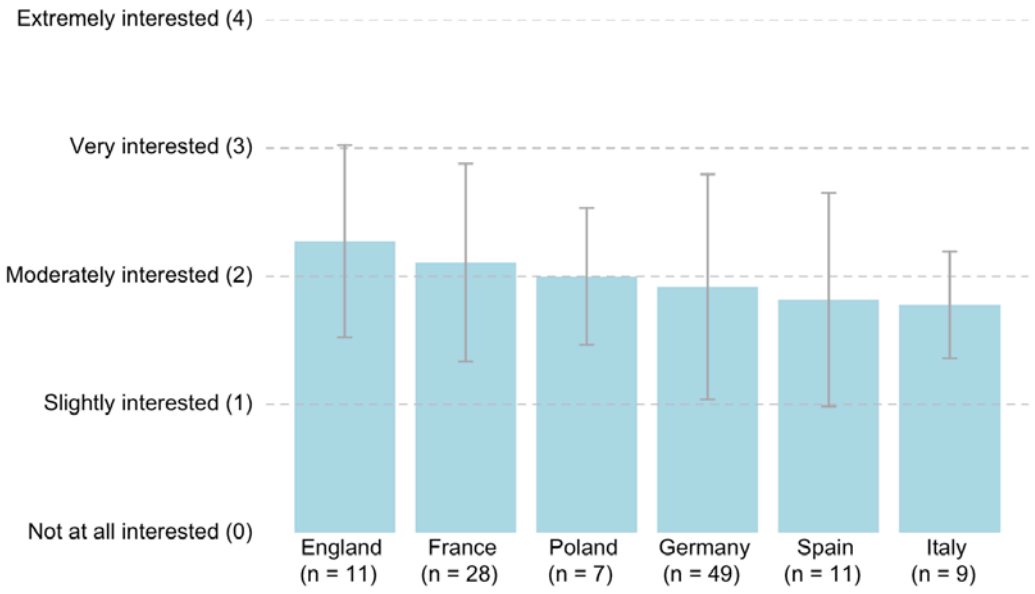
RESULTS

Context

Respondents operated on a variety of different governance levels for realising participatory processes, as indicated by the multiple levels they selected when filling in the survey (Appendix A, Table A1).[9] Even though the WFD introduces river basin management as an important planning instrument, the governance scale that was mentioned most often (44%) by public officials was the regional administrative governance level,[10] while only 27% of respondents indicated that they operated at the river basin level, and 26% reported working at the catchment level. Particularly respondents from Poland (71%) and Germany (69%) localised their operative scale at the regional administrative level, while in Italy 40% of respondents reported their operative scale to be at the regional level. The predominance of the river basin level in Spain (55%) and the catchment level in France (64%) as the main governance level reflected their strong tradition of activity at those levels. In England, the stronger emphasis on catchment-level planning during the second WFD cycle was reflected by 64% of respondents reporting that they operated at this scale, however in 55% of cases respondents reported that the centralised management approach on the national level was being used.[11]

As an important precondition for meaningful participation, respondents were asked to assess the interest of non-state actors in participating in the planning and implementation process of the WFD; respondents from all countries indicated only moderate interest by non-state actors in participating in the planning process (Figure 1).

Figure 1. Interest of non-state actors in participating in the planning and implementation of the WFD.



Note: Depicted are arithmetic means over all responses per country, with error bars indicating standard deviation.

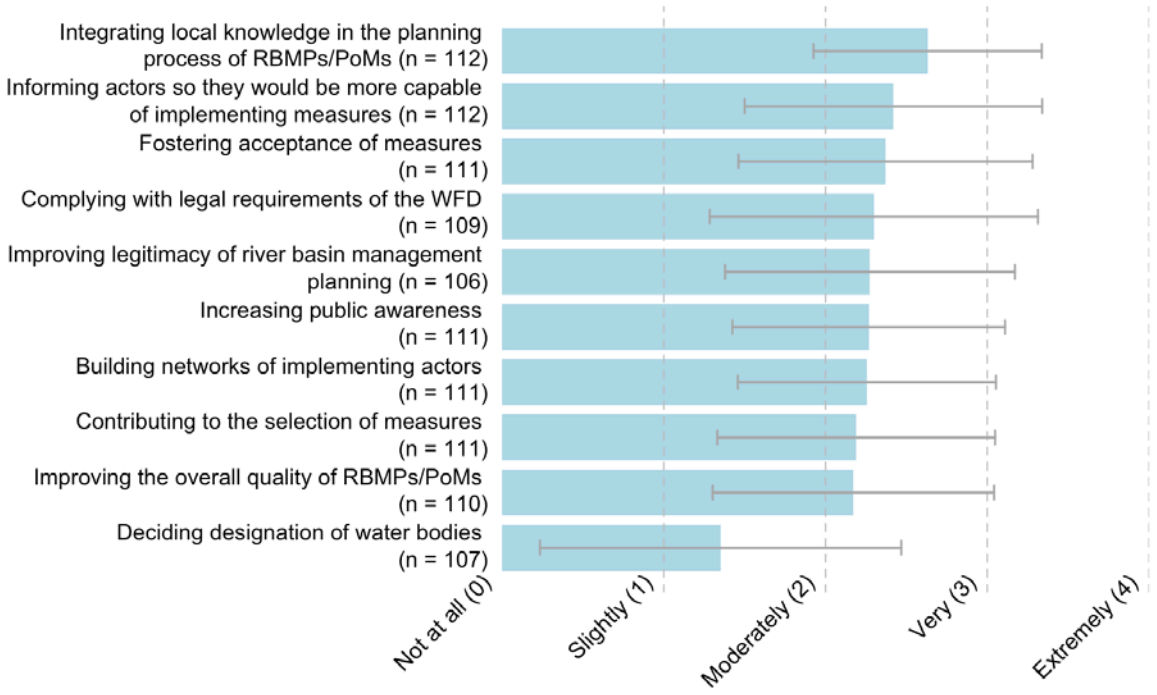
[9] The question asked in the survey on the level of governance was: "What is the scale you/your institution is operating on?" Respondents could select more than one governance level to answer the question. The multiple choice answers that could be selected were: National, Regional, Local, River basin, National part of international river basin district, Sub-basin, Catchment.
[10] Following the definition of the European Commission, the term 'regions' refers to all subnational administrative levels (EC, 2019a), such as federal states in Germany or regions in France.
[11] Respondents could select more than one governance scale.

Realisation of active involvement

Even though active involvement is only "encouraged" by the WFD, 96% of respondents stated that active involvement of non-state actors had been realised, or strongly encouraged (58%); respondents from Germany, especially, emphasised the strong encouragement of active involvement (74%). Figure 2 indicates that the goals that were being pursued by public officials through active involvement were manifold. All goal-related options that respondents could choose were assessed, on average, as being higher than "moderately" important, with the exception of the rather technical goal of deciding on the designation of water bodies that was apparently only aimed at in a minority of jurisdictions. These results suggest that expectations on the instrumentality of active involvement were overall considerable.

Active involvement processes were mostly led by state agencies (Spain: 91%; Germany: 83%; Poland: 83%; Italy: 60%; France: 56%); England was an exception with 91% of respondents stating that non-state actors chaired the process. France was the only other country in which non-state actors also frequently had a leading role (41%). Poland also stood out, with 67% of respondents stating that external facilitators were responsible for the participation process, something that was barely mentioned in the other countries.

Figure 2. Goals that motivate the realisation of active involvement.



Note: Depicted are averages over all countries, with error bars indicating standard deviation.

Represented actor groups

On average, respondents mentioned that more than six stakeholder types have participated in the active involvement process. Figure 3 shows the extent to which the respective actor groups have been represented in the participatory processes. In all countries and in most cases, there was participation by state agencies (93%), agriculture (91%), local authorities (86%), the environmental sector (83%), and water services (78%). Actors from angling and fishery had a notable importance in England, since all respondents selected this actor group, while in Spain and Italy that group was less involved (18% and

30%, respectively). Forestry actors participated according to half of the German respondents (52%), while in Spain 72% of respondents reported that actors from other civil society sectors participated. In all other countries both groups were much less involved.

State agencies were not only the most selected but were also the most strongly represented actor group in almost all countries (Figure 3); strong representation and over-representation of state agencies was chosen particularly often in Italy, England and Germany.[12] The most represented non-state actor group was agriculture, with some notable differences across countries. While in Spain agriculture was assessed as the most strongly represented – and in some cases over-represented – actor group in participatory processes, agriculture was deemed by respondents from Poland, and particularly from England, to be insufficiently represented.[13] Overall, national results indicated that local authorities were sufficiently represented in the participatory process; Germany stood out, with 50% of respondents stating that in fact local authorities were strongly represented or even over-represented, while respondents from other countries indicated that local authorities were sufficiently represented or even under-represented.[14] The environmental sector was indicated as being sufficiently or strongly represented in most of the cases in all countries, though the strength of responses from England presented an exception, with 73% of respondents stating that actors from the environmental sector were strongly represented. The representation of actors from the environmental sector was significantly stronger in England than it was in the other countries, especially Spain and France.[15] Another notable result was the relatively strong representation of other civil society actors in Spain, compared to the other countries.[16] Poland was the only country where respondents stated that no actor group was over-represented in the participation process, and in fact responses indicated an under-representation of local authorities and agriculture. In France, by contrast, no respondent indicated an actor group as being under-represented and only relatively few respondents (compared to other countries) felt there to be an over-representation of state agencies or agriculture. (Detailed results are shown in Appendix B, Table B1.)

Communication modes

Respondents were asked to what extent different communication modes were implemented in the participatory processes (Figure 4). Overall, responses indicated that one-way communication flows – such as information provision and input through suggestions and concerns from non-state actors – were slightly more established in participatory processes than were two-way communication flows such as intensive deliberation among stakeholders. Respondents from Germany stated that all three communication modes had been on average strongly implemented in participatory processes. These results differed from other countries, especially England and France,[17] where all communication modes were found to be less well implemented. Structured methods of knowledge elicitation and/or aggregation were much less used in all countries, with the highest use reported in Spain. It is notable that statements varied a lot from case to case within the countries, except for in Italy.

[12] Significant Kruskal-Wallis test ($H = 20.211$, $p = 0.001 < 0.05$), with significant Dunn-Bonferroni post hoc test between Poland and Germany ($z = 3.066$, $p = 0.033$), France and Germany ($z = -2.977$, $p = 0.044$), and Poland and England ($z = 3.034$, $p = 0.033$).

[13] Significant Kruskal-Wallis test ($H = 18.058$, $p = 0.003 < 0.05$), with significant Dunn-Bonferroni post hoc test between Spain and England ($z = -3.752$, $p = 0.003$).

[14] Significant Kruskal-Wallis test ($H = 28.127$, $p = 0.000 < 0.001$), with significant Dunn-Bonferroni post hoc test between Poland and Germany ($z = 2.96$, $p = 0.046 < 0.05$), Spain and Germany ($z = 3.137$, $p = 0.026$), England and Germany ($z = -3.603$, $p = 0.005$), and France and Germany ($z = -3.412$, $p = 0.010 < 0.05$).

[15] Significant Kruskal-Wallis test ($H = 16.677$, $p = 0.008 < 0.05$), with significant Dunn-Bonferroni post hoc test between England and Spain ($z = 3.083$, $p = 0.031 < 0.05$), and France and England ($z = 2.218$, $p = 0.027 < 0.05$).

[16] Significant Kruskal-Wallis test ($H = 12.877$, $p = 0.025 < 0.05$), with significant Dunn-Bonferroni post hoc test between England and Spain ($z = -3.186$, $p = 0.022 < 0.05$).

[17] Significant Kruskal-Wallis test for all communication modes ($p < 0.05$), with significant Dunn-Bonferroni post hoc test between England and Germany ($p < 0.05$) for information provision and intensive deliberation), France and Germany ($p < 0.05$) for all communication modes, and Italy and Germany for information provision and opportunity to speak.

Figure 3. Extent to which the respective actor groups were represented in the active involvement process.

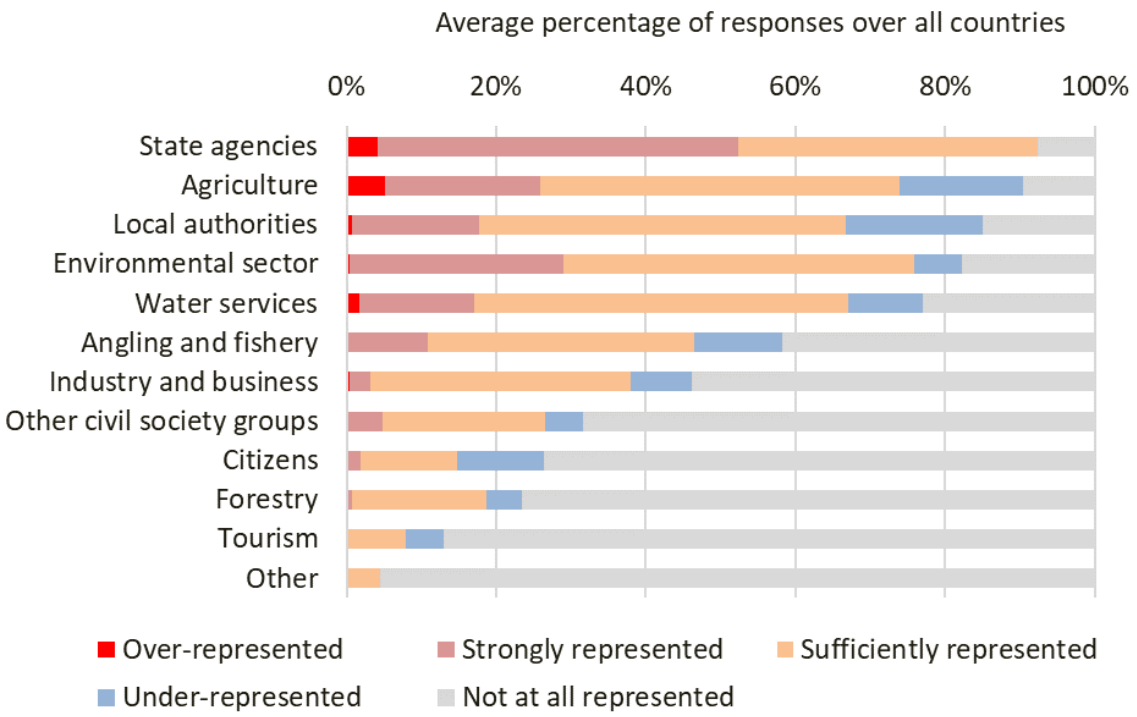
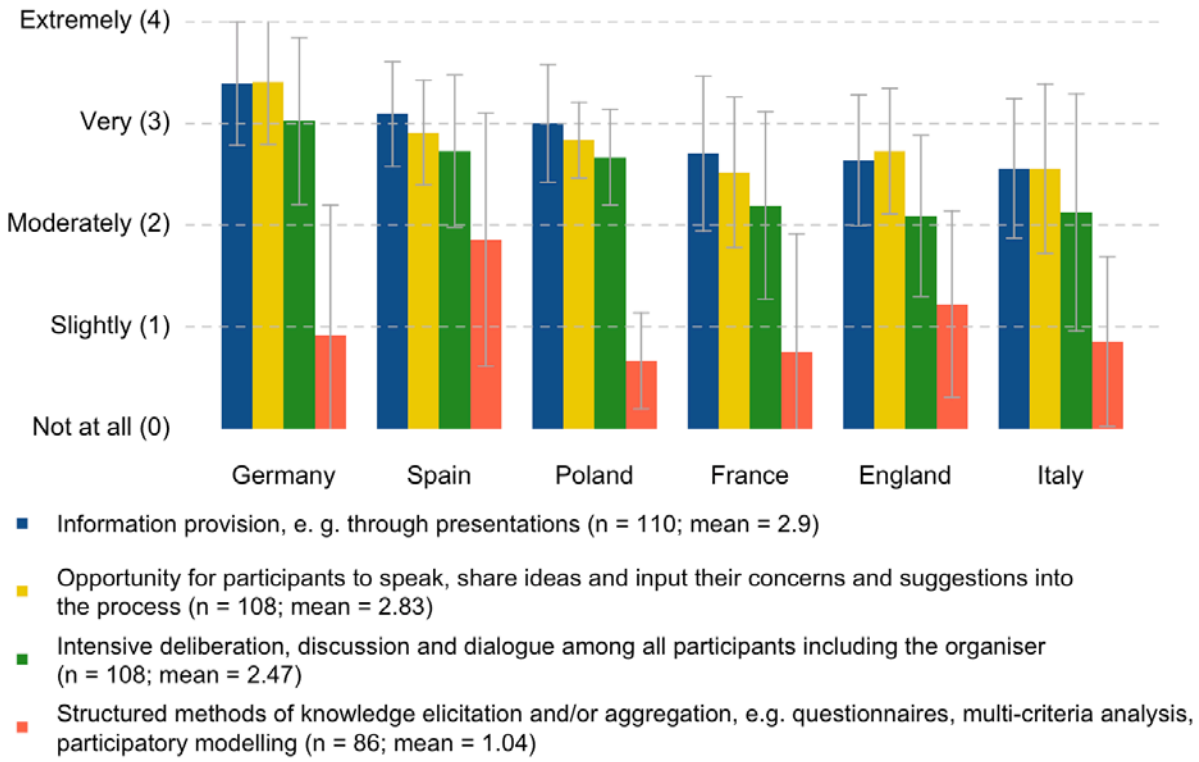


Figure 4. Communication modes that were implemented in the participatory processes.

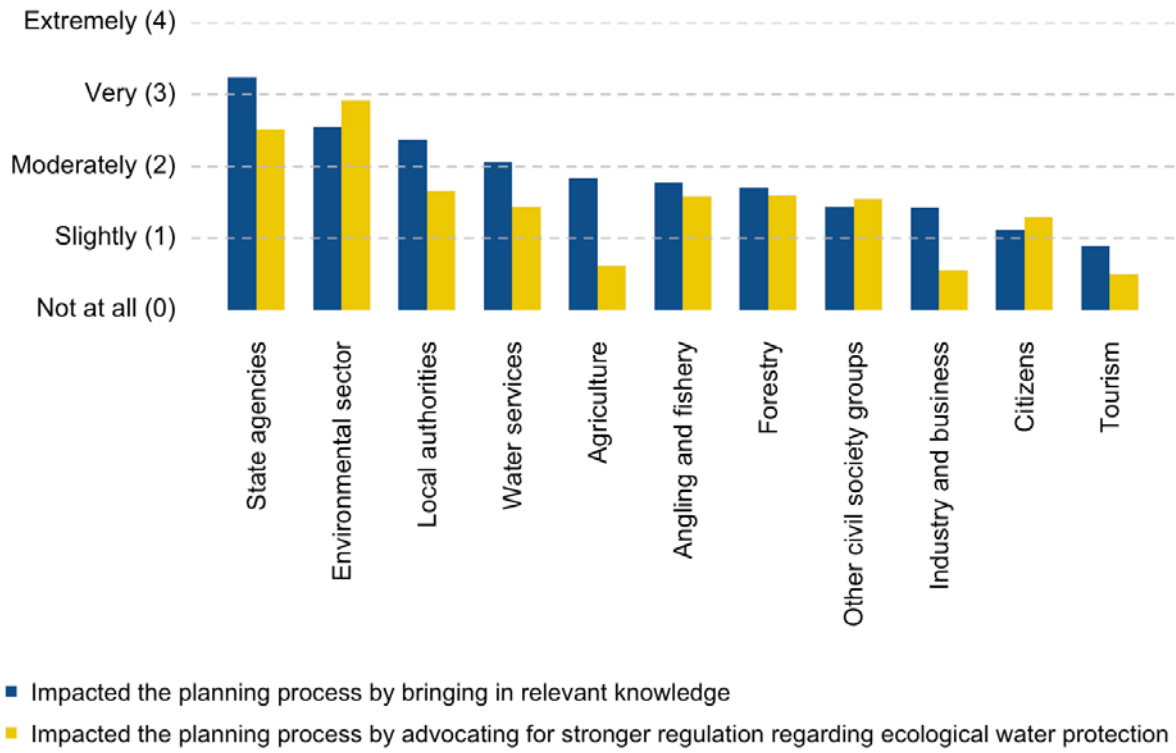


Note: Depicted are arithmetic means over all responses per country, with error bars indicating standard deviation.

Stakeholder influence on planning

According to the respondents, participating groups had mixed impacts on planning processes (Figure 5). Rather than checking influence per se, we asked to what extent participants impacted planning by contributing relevant knowledge or by advocating for stronger ecological regulation. Not surprisingly, state agencies and local authorities were reported to be among the most influential groups. The environmental sector stood out as being the non-state actor group that contributed most actively. Despite its heavy representation in planning processes (Figure 3), the agricultural sector contributed significantly less. While it is not surprising that the sector was virtually not at all advocating for environmental regulation, it is notable that the agricultural sector was also reported as contributing less relevant knowledge than the environmental sector. Both observations also hold for industry and business, but these were overall less represented in active involvement processes (Figure 3). In line with their overall poor representation, citizens apparently had relatively little constructive impact on planning.

Figure 5. Impacts on the planning process by stakeholder groups.



Note: Depicted are averages over all countries.

Summarising these findings, we can observe that participation has clearly been realised beyond the required minimum (that is to say, merely public consultation) since active involvement was implemented in the vast majority of cases. Except for England, in almost all cases state agencies were participating and strongly represented, as well as leading the process; at the same time, local authorities were overall among the most represented actors. On the part of non-state actors, agriculture was the most represented, followed by the environmental sector. Contrary to the normative expectations of the European Commission, citizens and the broader public were minimally involved.

In terms of communication, one-way information flow was predominant in participatory settings, whereas more intensive modes of two-way exchange such as deliberation were less prevalent. These

communication modes have been more frequently implemented in Germany than in the other countries. More sophisticated, structured methods of knowledge elicitation and/or aggregation were least commonly employed in all countries.

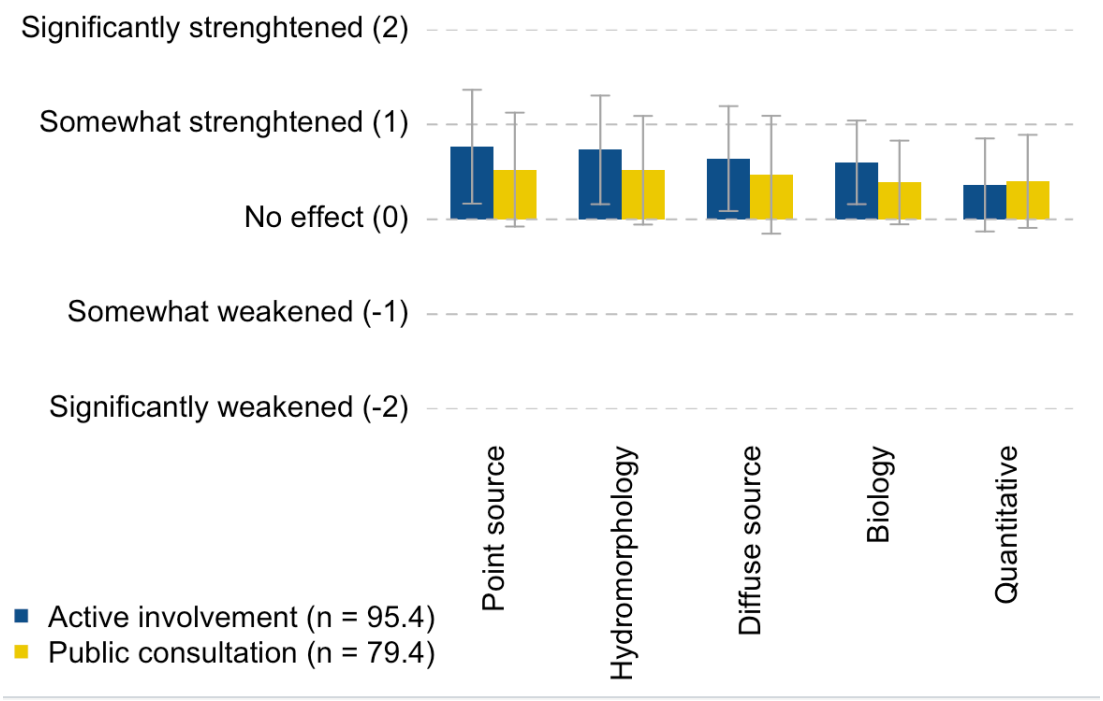
Instrumentality of active involvement and public consultation

The instrumentality of participation (active involvement and public consultation) as it was perceived by public officials was assessed through its impact on the environmental standards of RBMPs and PoMs; it was also gauged by its impact on the implementation of measures and, ultimately, by its effect on the improved quality of water bodies.

Environmental standard of final plans

Public officials were asked to assess the overall perceived impact of active involvement and public consultation on the environmental standards of final RBMPs and PoMs; their assessment was in regard to five different environmental pressures: diffuse source, point source, quantitative, hydromorphological and biological pressures (Figure 6). We found consistently low positive perceived impacts of active involvement and public consultation on the environmental standards of plans, with quantitative pressures being perceived as profiting the least from participation.

Figure 6. Extent to which participants' input from active involvement and public consultation impacted the environmental standards of RBMPs and PoMs, as assessed by public officials.

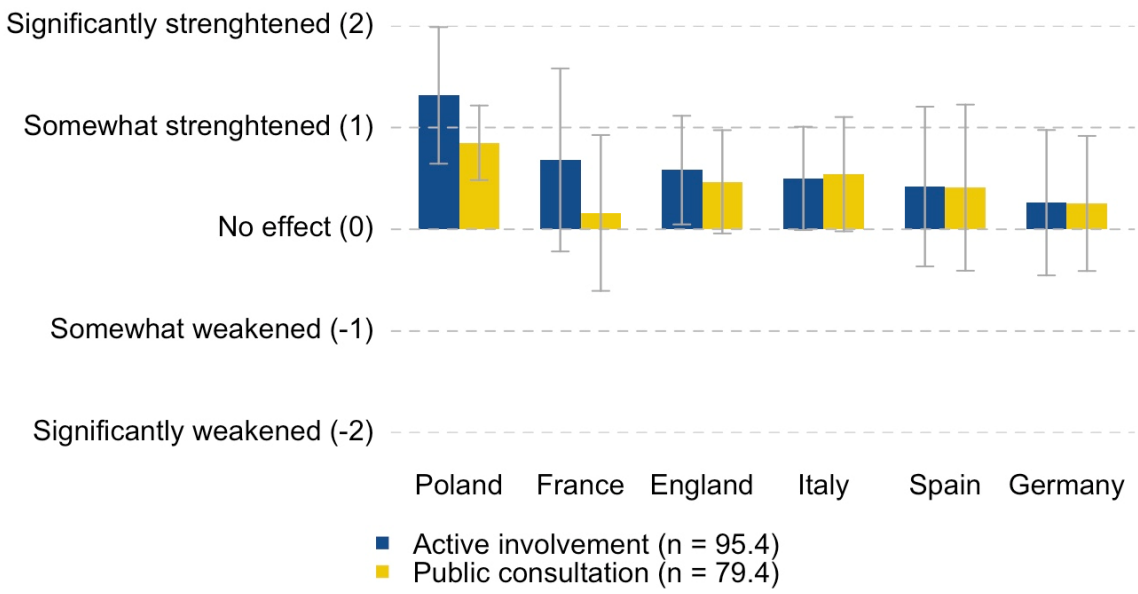


Note: For every environmental pressure, averages are depicted, with error bars indicating standard deviation.

In order to compare the overall impact of active involvement and public consultation on the environmental standards of RBMPs related to all pressures, per country, the mean over all pressures were calculated (Figure 7).

Although we find a consistently positive overall effect of participation, this effect cannot be considered to be as strong for the respective countries; there is considerable variation within countries, implying that some respondents reported that participation weakened environmental standards. Active involvement, on average, had a slightly higher – but not significant – positive impact on the environmental standard than did public consultation (Wilcoxon test: Z = -1.577, p = 0.115 > 0.05). Poland stood out, with respondents there reporting a relatively high impact of participation on the environmental standards of RBMPs.

Figure 7. Extent to which participants' input from active involvement and public consultation impacted the environmental standard of RBMPs and PoMs, as assessed by public officials.

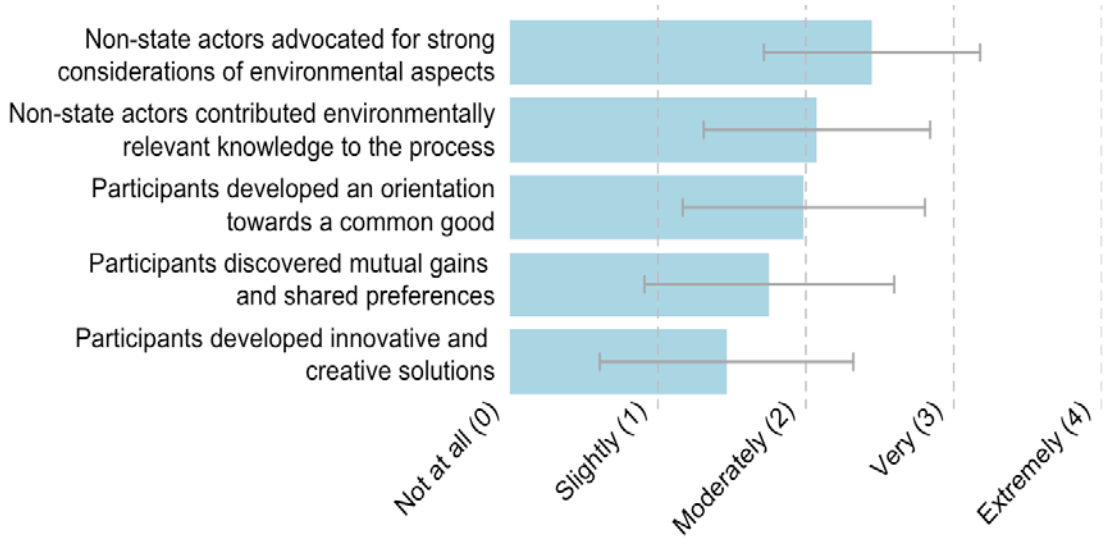


Note: Depicted are averages over five areas of environmental pressures per country, with error bars indicating standard deviation.

If active involvement was rated as having a positive impact on the environmental standards of RBMPs or PoMs, respondents were asked to assess the importance of causal mechanisms through which participation may have influenced RBMPs and PoMs (Figure 8); these mechanisms follow the causal model developed in Newig et al. (2018). Respondents from all countries agreed that non-state actors' advocacy for strong consideration of environmental aspects was an important mechanism of participation influencing the environmental standards of RBMPs (Kruskal-Wallis test: H = 5.096, p = 0.404 > 0.05). Notable differences occurred, however, with respondents from France highlighting the importance to the improvement of the environmental standards of environmentally relevant knowledge from non-state actors, while respondents from Germany – and even more so from Italy – stating that this mechanism was only moderately, or even less than moderately, important.[18] England stands out also, with respondents attributing higher importance to the orientation towards a common good.

[18] Significant Kruskal Wallis test (H = 16.108, p = 0.007), with significant Dunn-Bonferroni post hoc test between Italy and France (z = 3.318, p = 0.014 < 0.05) and between Germany and France (z = 3.186, p = 0.022 < 0.05).

Figure 8. Average degree of importance assigned to mechanisms impacting the environmental standards of RBMPs and PoMs for all six countries.



Note: Depicted are averages over all countries, with error bars indicating standard deviation; all categories were predefined.

Implementation on the ground

On the ground implementation of measures, as defined in RMBPs and PoMs, was reported to be limited. On a scale from very poorly (0) to completely (4), country averages ranged between 1.7 (Italy), 1.8 (Spain), 1.9 (Germany), 2.0 (England), 2.1 (Germany) and 2.4 (Poland). The Kruskal-Wallis test indicated no significant difference among the countries ($H = 8.667$, $p = 0.123 > 0.05$).

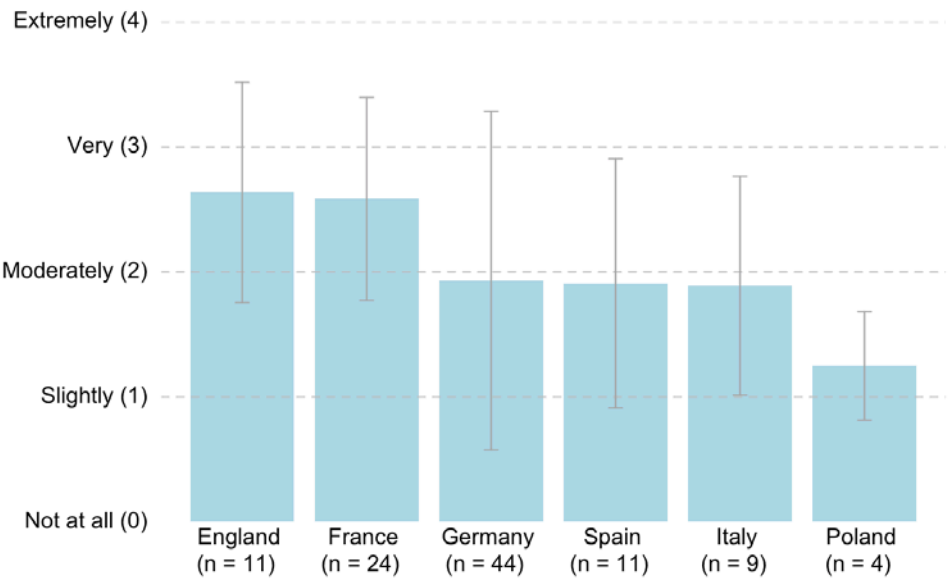
Respondents assessed how active involvement impacted on-the-ground implementation of measures as defined in RBMPs and PoMs. The overall mean of responses (1.9 on a scale from 0 to 4) for all countries indicated that the implementation of measures was moderately improved by active involvement. While no significant differences between the countries could be observed (Kruskal-Wallis test: $H = 7.743$, $p = 0.171 > 0.05$), respondents from France and England assessed the improvement more positively than did respondents from other countries. Similar results were shown for the involvement of implementing actors; especially respondents from France and England stated that implementing actors have been highly involved in participatory processes (Figure 9).

Seeking to understand why and how participation was supporting the on-the-ground implementation of measures, respondents were asked to rate the importance of a number of causal mechanisms, which were inspired by Newig et al. (2018). As shown in Figure 10, respondents agreed overall that harnessing implementation-relevant knowledge among participating stakeholders was the most important mechanism for improving the implementation of measures on the ground. While other mechanisms were closely ranked, respondents stated that voluntary action of non-state actors was least important to the implementation of measures. Poland and Italy, especially, highlighted the importance of harnessing implementation-relevant knowledge. England and France differed from the other countries, especially from Spain and Poland, in that they gave more importance to the building of know-how and capacity, the building of networks among stakeholders, and the voluntary actions of stakeholders.[19] England, in particular, highly valued the building of know-how, capacity and networks for an improved

[19] Significant Kruskal Wallis test ($p < 0.05$ for all mechanisms), with significant Dunn-Bonferroni post hoc test for building networks among participating actors between Spain and England ($z = 3.49$, $p = 0.007$) and between Spain and France ($z = 481$, $p = 0.007 < 0.05$).

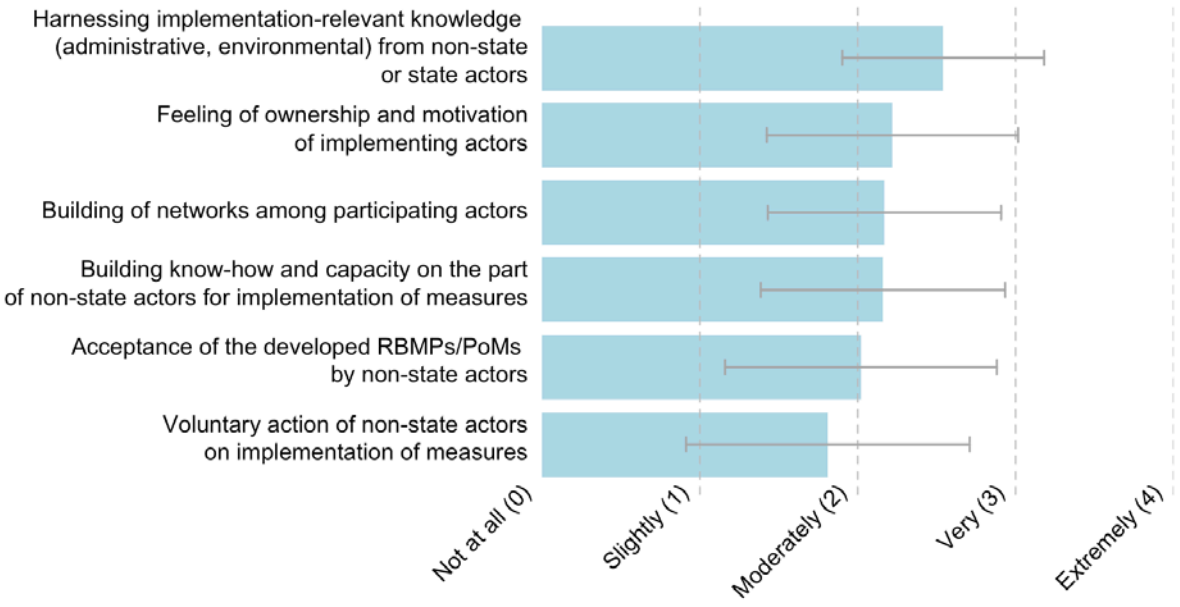
implementation on the ground. Acceptance of developed measures was rated as important by France and as most important by Germany for the implementation of measures on the ground.

Figure 9. Degree to which actors responsible for implementation have been involved in participatory processes.



Note: Depicted are arithmetic means over all responses per country, with error bars indicating standard deviation.

Figure 10. Degree of importance assigned to causal mechanisms in terms of how participation was considered to impact the implementation of RBMPs and PoMs (averages for all six countries).

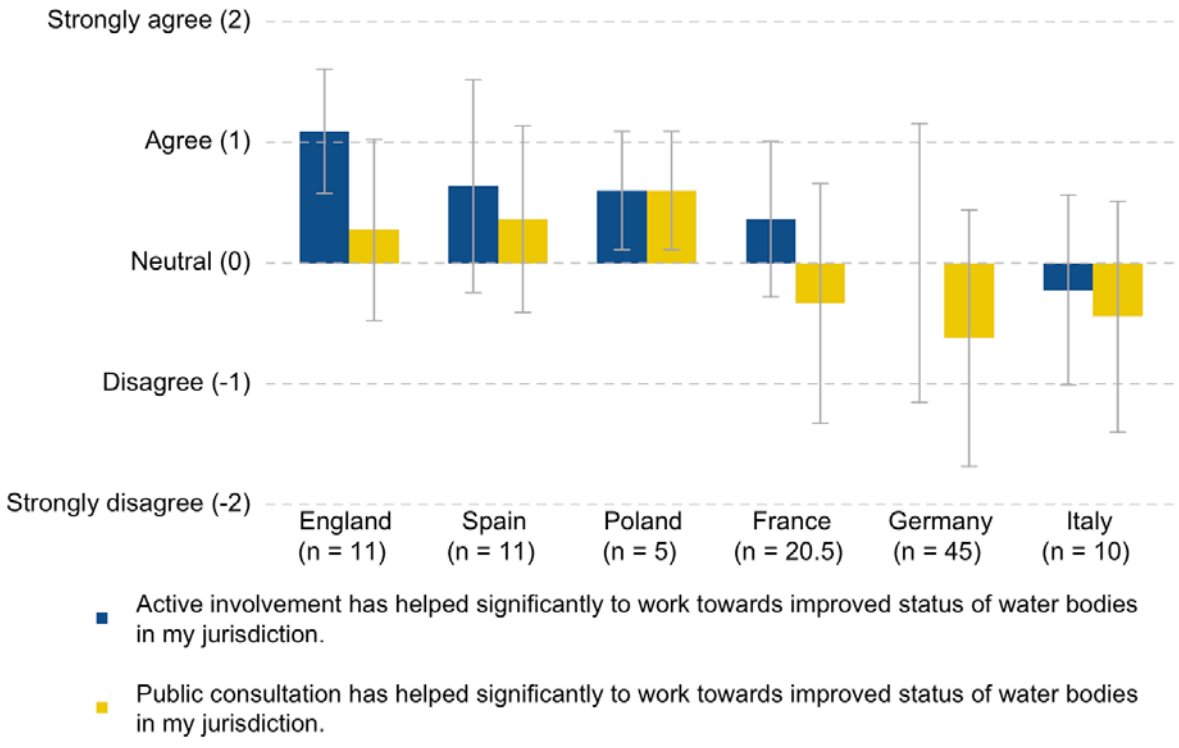


Note: Depicted are averages over all countries, with error bars indicating standard deviation; all categories were predefined.

Figure 11 presents a summary assessment of the instrumentality of active involvement and public consultation for improving the status of water bodies. Respondents were required to agree or disagree with the statement that active involvement (or public consultation) has helped significantly in working towards the improved status of water bodies in their jurisdiction. While respondents stated that active involvement was somewhat instrumental in achieving the WFD goals (average of 0.4 on the scale from -2 to +2), the importance of public consultation was on average rated at 0.0 (neither positive nor negative). This difference between active involvement and public consultation is significant (Wilcoxon test: $Z = -2.023$, $p = 0.043 < 0.05$). Notable differences between[20] and within countries could be observed.

Respondents from England, on average, clearly agreed that active involvement has helped to improve water status; other countries only slightly agreed or were rather neutral; German and Italian respondents, particularly, had a neutral or even negative response to this statement. The Dunn-Bonferroni post hoc test confirmed a significant difference between Germany and England ($z = 3.215$, $p = 0.020 < 0.05$) and between Italy and England ($z = 3.181$, $p = 0.022 < 0.05$). The statement that public consultation has helped significantly to achieve a good water status was questioned by respondents from France, Italy and Germany, while respondents from Spain, Poland and England supported the statement, albeit slightly.

Figure 11. Assessment on the extent to which active involvement and public consultation are felt to have significantly helped improve water status.



Note: Depicted are arithmetic means over all responses per country, with error bars indicating standard deviation and numbers of respondents per country on average over active involvement and public consultation.

[20] Significant Kruskal-Wallis test for active involvement ($H = 15.331$, $p = 0.009 < 0.05$) and for public consultation ($H = 15.941$, $p = 0.007 < 0.05$).

Taken together, the assessment of the instrumentality of active involvement and participation suggests to us that there was a minimally positive overall impact of participation on the environmental standards of RBMPs (Figure 11). Where the environmental standards of plans were raised due to active involvement, the most important driver was participating actors' advocacy for strong considerations of environmental aspects. Implementation of measures was reported to have been only moderately improved due to active involvement. While all respondents agreed that harnessing implementation-relevant knowledge and the feeling of ownership and motivation were important mechanisms that improved the implementation of measures on the ground, they disagreed about the importance of building know-how, capacity and networks, as well as about the acceptance of measures. Overall, respondents assessed public consultation as being clearly less instrumental than active involvement, though there was considerable variation across and among countries. Last, but not least, the overall level of implementing measures to reach good water status was reported to be limited.

Obstacles and recommendations for future cycles of the WFD

Respondents were asked to name obstacles they faced during the process of planning and implementing RBMPs and PoMs; the most often identified obstacles were a lack of financing (named by 69% of respondents) and time constraints (68%), followed by a lack of human resources (56%) and a lack of interest by the public (46%) (Appendix B, Figure B1). Public officials were also asked whether they saw an obstacle to planning and implementation in the mismatch between proposed measures by non-state actors and actually realised measures in RBMPs and PoMs; respondents from England assessed this obstacle as one of their major issues (64%), while respondents from Germany, Spain and Poland rarely saw this as an obstacle. The majority of respondent from all countries did not perceive the limited influence of participants on final decisions about RBMPs and PoMs as being an issue; it can be noted, however, that more respondents from England (36%), France (33%), and Spain (27%) selected this as an obstacle than did respondents from Germany (15%), Italy (10%), and especially Poland (0%).

As a first recommendation for future WFD implementation, respondents from all the countries on average slightly agreed that WFD implementation should integrate more diverse actor groups (0.4 on a scale from -2 to +2); responses varied across countries however (Kruskal-Wallis test: $H = 26.474$, $p = 0.000 < 0.001$), with respondents from Germany having a negative view on this (average of -0.5).

Respondents were further asked to indicate whether agriculture or industry had too much influence on the achievement of good water status; respondents moderately agreed that agriculture had too much influence (mean of 0.8 on a scale from -2 to +2). Although responses among countries did not differ significantly (Kruskal-Wallis test: $H = 8.128$, $p = 0.149 > 0.05$), on average respondents from Spain, Germany and France agreed more with this statement than did the other countries. With regard to industry being too influential, respondents were generally neutral (average of 0.2 on a scale from -2 to +2).

The last question concerned participation in future WFD implementation; it asked whether respondents considered actors' involvement to be not really needed in future RBMPs. The majority of respondents from all countries ($n = 101$) consistently disagreed with this statement, with an average across countries of -1.0 (on a scale from -2 to +2) (Kruskal-Wallis test: $H = 5.588$, $p = 0.348$ $p < 0.05$); respondents from France and Germany disagreed the most, while respondents from Italy disagreed less. This is consistent with the overall assessment of participation as being somewhat beneficial.

There are certain takeaways from these findings on obstacles to, and recommendations for, future WFD implementation. First, the obstacles considered by all countries to be most important were lack of financing, inadequate human resources, insufficient interest by the public, and time constraints. Factors that were not considered by respondents to be obstacles in the planning process, or to be obstacles in general, included the lack of influence by non-state actors and the mismatch between proposed measures and the measures finally integrated into RBMPs and PoMs. In terms of future WFD

implementation, respondents from Germany were more cautious than respondents in other countries in arguing for the involvement of more diverse actor groups; England, especially, recommended the involvement of other actor groups. Respondents from all countries, particularly Spain, Germany and France, stated that the influence of agriculture had impeded the achievement of good water status, while industry's influence had not. Respondents from all countries agreed that active involvement is still (somewhat) needed for future RBMPs.

DISCUSSION

The Water Framework Directive sets highly ambitious goals for bringing European waters to a level of good status, particularly through public participation in river basin management planning. Public participation was introduced with a view to more fully achieving the WFD's goals; to this end, participation was expected to enhance the environmental quality of RBMPs and PoMs, and to improve their implementation on the ground (Kochskämper et al., 2018b). Public officials who represent competent authorities in WFD implementation are in charge of designing and realising participation. As good water status has not yet been achieved (Voulvoulis et al., 2017; EC, 2019b), it is important to ask how public officials assess the realisation of participation requirements and whether they perceive public participation as being an effective instrument for reaching the goals of the directive. In addition to these questions, this article highlights major differences between member states that result from different traditions of water management in participatory governance.

While this study is arguably the largest cross-national survey of participatory water management under the WFD, it is not without limitations. The sampling of our 118 respondents was non-random and potentially biased between and within countries. Because of the low number of respondents in Poland and Italy, the reliability of results may have been hampered. With our results, however, we were able to cover the governance levels of all competent authorities in the six countries and therefore were able to identify general patterns for each country. The distribution of responses within a country are often characterised by a high standard deviation; this indicates notable differences within the countries, especially in Germany where participatory processes differ from one federal state to another. We surveyed only one group of actors that was involved in the participatory process, namely public officials; this may also have biased our results. We would nonetheless expect public officials to overstate the achievements of participatory processes, as they are in charge of implementing them; in view of our findings, however, we judge this bias to be a minor concern. The length of the questionnaire may have resulted in a lower response rate. Due to the translation of the questionnaire into the six native languages no potential respondent was excluded by language barriers, which caused the whole sampling to be enriched by authentic insights; we cannot, however, rule out that translation may have led to different interpretations of certain questions. With these methodological limitations in mind, our study nonetheless provides important insights into the role of participatory processes in reaching good water status.

Regarding the realisation of participation requirements, the majority of respondents stated that they realised not only the mandatory public consultation, but also the active involvement processes that are only 'encouraged' by the directive; in this way, state authorities responsible for implementation showed their willingness to go beyond legal requirements. Our results nevertheless suggest a path dependency in the implementation trajectories for participation in that, in all countries, state agencies were strongly represented within participation processes; this was particularly the case in countries such as Italy and Germany that have a dominant regional administrative level in the form of federal states, regions and provinces. England, for the second WFD cycle, adopted a more decentralised, local planning approach through catchment partnerships (DEFRA, 2013), however it has seemingly continued with a strong national level emphasis as indicated by the strong representation of these state agencies in participatory processes.

Mandated participatory planning, as envisioned by the WFD, sought to open the door to stakeholder groups or interested parties who had formerly not been present in planning procedures; traditionally important actors such as agriculture or the water sector, however, maintained their salient role in terms of representation. In all countries, the environmental sector was even so the most represented non-state actor after agriculture and was, in fact, the most represented in England. In Germany and Spain, agriculture was perceived as being over-represented and too influential in planning processes; its dominant role seems complicated, furthermore, as agriculture is also the main actor causing significant pressures on waters in these countries. In France respondents also reported a high degree of influence of agriculture, even though the basin committees are highly formalised and have a prescribed, balanced legal representation (Liefferink et al., 2011).

Citizens were rarely represented in participatory processes; this may stem from participatory process designs (see, for example, Kochskämper et al., 2016, 2018a), but respondents also frequently mentioned the lack of interest from the general public, a phenomenon already discussed in the literature (van der Heijden and ten Heuvelhof, 2012; Frör et al., 2016). The catchment partnerships in England, for example, seemed to suffer from this lack of voluntary involvement even though they were open to citizens. An exception in this regard was Spain where participation was substantially shaped by civil society groups and lay citizens; other studies have linked this higher level of citizen involvement to the public awareness caused by a larger societal movement related to water issues and more sustainable water management (Ruíz-Villaverde and García-Rubio, 2016; Kochskämper et al., 2018c).

Communication modes that have been realised in the participation processes were found to have varied from country to country. The main mode was a one-way information flow in the form of information provision by organisers, whereupon participants had the opportunity to voice and bring in their opinions, knowledge and input. According to respondents, interactive communication in the form of deliberation or dialogue was less common and structured methods of knowledge elicitation or aggregation were used the least. Results for Spain and Italy corresponded to findings from previous studies (Jager et al., 2016a; Pellegrini et al., 2019a); respondents from Spain indicated that the level of dialogue and deliberation in participatory processes was rather high, while respondents from Italy reported it to be rather low. In France and England, by contrast, the realisation of intensive deliberation was assessed to be lower than other countries even though both countries were considered to be applying intensive forms of communication. Due to its long history of participation, French respondents may have been more critical of the realisation of the participatory process, or possibly the formalised processes may have been more technical than deliberative in nature. For England, the change from a very top-down, technical participatory approach (Fritsch, 2017) after the first cycle of implementation, to a more decentralised approach in the second cycle may have also contributed to a more critical perspective. Alternatively, similar to the representation patterns discussed above, this adjustment may not have automatically led to improved communication levels. In a study of eight cases in Germany, Spain and the UK, Kochskämper et al. (2018a) also found that deliberation was rather an unattained ideal and that processes of two-way information flow were not predominantly shaped by intensive discussions or dialogue. Respondents in Germany, however, assessed the realisation of intensive deliberation exceptionally high, even though previous studies had described communication as being rather limited in comparison to countries such as France (Jager et al., 2016a); one possible explanation for this may be that Germany has had to adapt its approach towards participation quite substantially due to WFD implementation and thus, regarding this new form, respondents may have been be less critical of the conducted participatory processes. In Germany, participatory formats were also very diverse in terms of levels of intensity (Kochskämper et al., 2018a); it may therefore be that the public officials who organised more intensive processes were more likely to participate in the study. In Poland, where responses also indicated a high intensity of communication, the more frequent presence of external facilitators (67%) may be an additional explanation.

According to public officials, public participation has not had the envisioned instrumental effect intended by the directive; there has been a perceived positive but minimal effect on the environmental standards of RBMPs and PoMs. Active involvement was also assessed to be more effective than public consultation; a reason for this may be the strong representation of interest groups whose agenda is not in line with environmental goals (Benson et al., 2012; Euler and Heldt, 2018). As stated by respondents in Spain, France and Germany, agriculture had a strong influence on decision-making processes; this may have lowered the environmental standards of RBMPs. Participatory input, however, may also simply not have been perceived as relevant for the planning documents.

Respondents from all countries agreed that the advocacy by non-state actors for a strong consideration of environmental aspects was the most important mechanism of participation. This corresponds to the study by Kochskämper et al. (2018a), which found that environmental advocacy was one of the mechanisms that had the strongest effect on the environmental standards of RBMPs and PoMs. These authors also highlighted the importance of local expert knowledge; these findings were particularly supported by respondents from France who operate on the catchment level in local basin committees and, to a lesser extent, respondents from England who operate on the catchment level in catchment partnerships. Respondents from countries that mainly operate on the regional level, such as Italy, did not perceive local knowledge as being important, which may be linked to the scale of operations. Interestingly, especially England and, to a lesser degree, France identified the development of a common good orientation among participants – a mechanism usually associated with deliberation – as being important to the final outcome (Newig et al., 2018); England and France, however, were precisely the two countries that assessed the importance of deliberation and dialogue in their processes as being rather low. Innovation through mutual learning, not surprisingly, was labelled the least important mechanism; this corresponded to studies that found WFD participation processes not conducive to social learning (Euler and Heldt, 2018; Kochskämper et al., 2018a; Kochskämper and Newig, in press).

Responses provided little support for the hypothesis that participatory processes improve the implementation of measures on the ground. Again, it was responses from France and England that indicated a more positive view on the improvement of implementation through participation. According to Kochskämper et al. (2018b), the most important mechanisms of participation for improving the implementation of measures are capacity building and the exchange of implementation-relevant knowledge among participating actors. Respondents from all countries supported these findings, with the agreement that harnessing implementation-relevant knowledge was important; this included respondents from Italy, a country where local knowledge was not considered to be of much value to the planning process. Respondents from England and France both assessed the building of know-how, capacity and networks as boosting the implementation of measures on the ground; in both countries, implementing actors were strongly involved in participatory processes, which corresponds with findings that indicate that implementation activities foster ownership and motivation (Kochskämper et al., 2016; Kochskämper et al., 2018b). It could also be read that a long history of continuous participation, such as in France, drives this mechanism (Emerson and Nabatchi, 2015). Respondents from both England and France further indicated the importance of the acceptance of measures by non-state actors, which Kochskämper et al. (2018b) identified as a precondition. Voluntary actions by participants, on the other hand, was identified least often by all countries as playing a role. It is notable that implementation of measures on the ground was slow and sparse in general, which the latest EU evaluation indicates is a problem in all EU member states (EC, 2019a).

In all six countries, respondents saw neither the environmental standards nor the implementation of measures as being substantially improved through participation. It is not surprising, therefore, that respondents generally had a rather neutral opinion concerning the overall instrumentality of participation in the improvement of water status. In England, Spain and France, active involvement was perceived to be more instrumental than public consultation; the latter was in fact perceived negatively in France, Italy and Germany, which is somewhat surprising as respondents in all countries perceived a

slightly positive effect of public consultation on RBMPs and PoMs. This inconsistency in responses regarding the effect on plans and final water status could point to the difficulty of drawing the long causal chain from participation to improved water status. First, even with effective plans and applied measures, certain water issues can only be solved over the long run (Koontz and Thomas, 2006). Second, the effective implementation of plans that were, on paper, of a high environmental standard may have been hampered by the frequently assessed dominance of voluntary measures regarding diffuse-source pollution (which is mainly caused by agriculture), and a seemingly limited understanding by authorities that measures needed to reflect the main pressures (Kochskämper and Newig, in press; Kochskämper et al., 2018b; EC, 2019a). Third and finally, the major implementation gap of (potentially effective) RBMPs and PoMs of all EU member states is not only due to lack of participation; it is also due to external factors such as a lack of finance, which is the main reported impediment to implementation (EC, 2019a).

The survey respondents also identified lack of finance as being the main obstacle to the implementation of participatory processes; this was followed closely by time constraints and the limits of human resources. These obstacles may further explain why respondents were neutral or even critical with regard to consultation; it was overall seen as being less helpful for improving planning documents among all countries while requiring considerable organisation and time which could better be invested elsewhere. An additional problem for participatory planning in general, not only regarding consultation, is identified in the insufficient representation of all relevant actors; in this regard, particularly Germany, France, and Spain criticised the influence of agriculture. Since environmental advocacy was the strongest mechanism influencing the environmental standards of RBMPs and PoMs, advocacy from opposing groups such as agriculture may have been the complementary mechanism that lowered this standard and its effect. The lack of participants' influence on final decisions was rarely seen as a problem, nor was the disconnect between proposed measures by non-state actors and actual measures defined in RBMPs and PoMs. The fact that these issues were also indicated as being problems, however, allows the assumption that participants did not always have actual influence on final RBMPs and PoMs, which corresponds to the findings of other studies (Euler and Heldt, 2018; Kochskämper et al., 2018a). Power delegation can be seen as a precondition for participatory decision-making; this was found to be the most significant factor determining the environmental effectiveness of participation (Jager et al., 2016a).

Despite their rather sobering assessment regarding the instrumentality of participation, respondents from all countries were reluctant to dismiss it altogether where future WFD implementation was concerned.

CONCLUSIONS

What do we take from this analysis? More than one hundred public officials tasked with implementing the Water Framework Directive in their respective jurisdictions assigned limited instrumental value to participation in the achievement of good water status.

Broad public consultation and citizen participation in active involvement processes are given virtually no importance; this stands in stark contrast to the Commission's expectation that the role of citizens is crucial for achieving the WFD's objectives. In hindsight, the Commission's conviction that citizen participation benefits good water status appears overly naïve, if not somewhat strategically motivated as being a way to compensate for Europe's perceived remoteness from its citizens (Newig and Fritsch, 2009). Future European environmental policies may simply abandon the aspiration of broad citizen involvement in decision-making that is, in the end, relatively technical in nature. The Floods Directive, a "sister directive" to the WFD, has already taken this path (Newig et al., 2014).

Active involvement, on the other hand, warrants a more nuanced appreciation; while on average assessed to be of limited instrumentality, variation in this assessment among and between countries is considerable. This suggests that particular localities and problem settings require context-adapted governance strategies and that the targeted involvement of organised non-state actor groups may or

may not help. This resonates with earlier observations by Meadowcroft (2004), who assigns relatively more importance to the participation of organised stakeholder groups – as compared to broad citizen participation – in furthering sustainable development. Agriculture is overall rather critically assessed as having a limited productive contribution to the planning process while having too strong an influence; this, combined with the perceived productive contributions of other actor groups (notably environmental groups) suggests that while, in theory, involving the most important polluters may be a good idea, in this case little is gained for either planning or implementation. Instead, the identification of a lack of financial resources as a main obstacle to WFD implementation may suggest that substantial financial compensation may be required for the reduction of polluting activities and of all other activities that negatively impact the ecological status of water bodies.

Our study does not seal the end of participation in sustainable water governance; rather, we need a clearer notion of which instruments work and which do not. While our study centred on the independent variable of participation and its contribution to good water status, future research should more clearly target the dependent variable of what contributes to attaining good water status.

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APPENDICES

APPENDIX A: SUPPLEMENTARY INFORMATION ON DATA COLLECTION

Table A1. Competent authorities and respective governance levels for France, Spain, Poland, the UK, Germany and Italy. The second column lists the relevant competent authorities in each country; the third column depicts the jurisdictional level on which these competent authorities operate; the fourth column shows the percentage of respondents that assigned themselves to one or more governance levels. Note that some respondents selected governance levels that do not strictly correspond to the levels of competent authorities.

Country	Competent authorities	Governance levels of competent authorities	Governance levels on which surveyed public officials operate
France	Water agencies (*Les agences de l'eau*)	River basin level	7% regional level 32% river basin
	Local authorities	Local level/catchment level	18% local level 4% sub-basin level 64% catchment level
Spain	River basin authorities (*Confederaciónes hidrográficas*)	River basin level	55% river basin 18% national part of international river basin district
	Autonomous regions	Regional level	36% regional level
Poland	Regional water management boards	Regional level/river basin level	71% regional level 14% sub-basin level 14% catchment level
	National water management board	National level	14% national level
England*	Environmental agency including catchment coordinators	National level/river basin level Local level/ Catchment level	55% national level 36% regional level 27% local level 45% River basin level 9% sub-basin level 64% catchment level
Germany**	Competent authorities for federal states	Regional level/sub-basin level	69% regional level 6% local level 29% river basin level 16% national part of international river basin district 6% sub-basin level 6% catchment level
	Bund/Länder-Arbeitsgemeinschaft Wasser (LAWA)	National level	2% national level
Italy***	River basin authorities	Regional level/river basin level/sub-basin level	40% river basin 20% national part of international river basin district

Regions	Regional level	10% sub-basin level 40% regional level 20% local level

Source: Adapted from the Commission Staff Working Documents (EC, 2019b, 2019c), the website of the EC (EC, 2019e), websites from the respective competent authorities (e.g. Ministero dell'Ambiente e della Tutela del Territorio e del Mare, n.d. (in Italian only)), as well as additional literature cited in this article.

Note: * The Environment Agency (EA) as the competent authority on the national level operates from eight regional offices and has competencies to organise participation on the river basin level (Fritsch, 2017); also, EA catchment coordinators organise catchment partnerships at the catchment or local level and ensure information flow between the EA and the catchment partnerships (Pellegrini et al., 2019a).

** Competent authorities are assigned to the 16 federal states and thus operate on a regional level. In cases where river basin districts need to be governed by different federal states, river basin authorities (e.g. Flussgebietsgemeinschaft Elbe or Flussgebietsgemeinschaft Ems) were formed on the river basin level to ensure cooperation between the concerned federal states (EC, 2019c). Participation processes, however, are organised on the catchment or local level (Pellegrini et al., 2019a).

*** Although river basin authorities are organised on the river basin level, public officials on the regional level highly influence decision-making in water management (Domorenok, 2017); the operative scale, including the organisation of participatory processes, is thus the regional level rather than the river basin level (Pellegrini et al., 2019a); also, river basin authorities can have competencies over sub-basins as they are in charge of delineating programmes of measures (EC, 2019d).

APPENDIX B: SUPPLEMENTARY RESULTS

Table B1. Sufficient representation of selected actor groups within the process, on the following scale: 0 = not at all, 1 = under-represented, 2 = sufficiently represented, 3 = strongly represented, 4 = over-represented.

	England (n = 11)	Spain (n = 11)	Poland (n = 5)	Italy (n = 10)	France (n = 27)	Germany (n = 48)
State agencies	*2.91*	*2.60*	*2.00*	*3.00*	*2.30*	*2.84*
Local authorities	*1.70*	*1.71*	*1.50*	*2.11*	*2.00*	*2.62*
Agriculture	*1.55*	*2.82*	*1.50*	*2.22*	*2.35*	*2.22*
Industry and business	1.67	2.00	1.67	*1.80*	*2.00*	2.15
Water services	*2.09*	*2.00*	*1.75*	*2.56*	*1.75*	*1.90*
Environmental sector	*2.73*	*1.91*	*2.00*	*2.43*	2.00	*2.37*
Angling and fishery	*2.00*	1.50	1.67	2.00	*1.80*	*2.24*
Forestry	1.50	1.00	2.00		1.83	2.00
Tourism		2.00			1.67	1.86
Other civil society groups	1.33	*2.50*	2.00	1.50	1.83	1.90
Citizens	1.20	2.50	1.00	1.25	1.40	1.73

Note: Numbers in italics represent frequently selected actors by the respective countries.

Figure B1. Obstacles faced by public officials during the implementation process of the WFD.