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Article

WaterCoG: Evidence on How the Use of Tools, Knowledge, and Process Design Can Improve Water Co-Governance

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Abstract: The European Union Water Framework Directive (WFD) encourages water managers to implement active stakeholder involvement to achieve sustainable water management. However, the WFD does not describe in detail how member states should operationalize participation. The need for local experience and local understanding of collaborative governance (co-governance) processes remains. The WaterCoG project evaluated 11 local pilot schemes. Building on the participatory, qualitative evaluation of pilot schemes from Sweden, United Kingdom, Denmark, The Netherlands, and Germany, the authors take a closer look at how co-governance can improve water governance, how water managers can make best use of tools and knowledge, and how they can improve process designs. The results reflect how social learning and successful co-governance are linked. Social learning as a shared understanding of complex ecosystem and water-management issues can be supported with active stakeholder involvement and citizen science. As such, in co-governance processes, stakeholders need technical access to data and knowledge and a shared process memory. This enables them to develop a shared understanding and facilitates bringing together competing interests and finding new solutions. Participatory tools became part of successful processes by building trust and knowledge based on commitment. However, proficient process design and facilitation make these tools more effective.

Keywords: collaborative governance; water management; social learning; participatory tools; citizen science; evaluation; participatory processes



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1. Introduction

The European Union (EU) Water Framework Directive (WFD) is the first legislation to define a European environmental objective [1] (Art. 4), which encourages actively involving relevant stakeholders in water management in order to obtain sustainable ecosystems [1] (Preamble, Art. 14). However, active involvement needs to go beyond information and consultation since a number of (partly conflicting) interests must be met before any measure can be implemented [2,3]. In this paper, we investigate and evaluate active involvement or co-governance processes, which involves stakeholders who often represent a certain interest with expertise, knowledge, and opinions. This includes citizen science as one way of active involvement. While the main aim of stakeholder involvement is to generate support (or resources) for decisions, citizen science involves citizens in order to raise

awareness and/or to use their resources for generating data (e.g., collecting water quality samples) [4–10].

Earlier research has pointed towards the benefits of and barriers to co-governance approaches [11–17]. For example, Senecah [14] emphasizes that stakeholders learning to respect each other's perspective improves participation processes, but a lack of understandable knowledge/information negatively affects the trust in and the quality of participation processes. This has an impact on the decision-making process. When it comes to complex questions such as drinking water production, there is also a need for "a new integration of the knowledge of systemic risk relations, in combination with more efficient agency collaboration based on a clear demarcation of responsibility between actors" [18]. Graversgaard et al. [11,12] show that increased active involvement benefits co-governance processes by providing better outcomes in terms of more cost-efficient implementation. At the same time, inflexible boundary conditions and policy designs can constrain active involvement and act as a barrier for the implementation of measures that may work towards multiple benefits (e.g., flood protection and improvement of biodiversity).

For active involvement and citizen science to be successful, social learning processes among stakeholders need to be integrated into catchment management [15,17,19–22]. In turn, the implementation of certain measures may foster active involvement or citizen science. Research by Wamsler et al. [23] concludes that the implementation of nature-based measures can lead to increased citizen involvement in the governance system. However, active involvement and citizenship under the current conditions can also limit the sustainability of the implementation of measures [13,14].

The WFD does not describe in detail how member states should operationalize participation [24–26]. The European CIS-Guidance on Public Participation only strongly encourages active involvement [2], but at this point, not many water managers follow the guidance. The need for local experience and local understanding in co-governance processes remains. This is why the Water Co-Governance for Sustainable Ecosystems (WaterCoG) project has implemented and evaluated a number of local pilots to identify shared challenges and lessons learnt. We focused on the three themes presented in the following subsections.

1.1. Connecting Governance Levels with Co-Governance Approaches

One focus of the evaluation was to understand how the different co-governance processes are embedded in the overall water-management context. Successful implementation of EU directives needs a good connection between the top and bottom levels of governance [25,27]. Top level refers to the national legislative body, which reports to the European level and defines management objectives (e.g., programs of measures, river basin district designation, etc.) to the lower level. Depending on the pilot, the regional body or the local authority represented the lower level. The bottom level consists of local actors who are living or working in the area. At the bottom level, local knowledge and local institutions are core attributes for the participation process [28–30], and can have an impact on both regional and national levels. Formally, local actors are consulted in written or oral consultation processes. Informally and in practice, their support can provide resources (e.g., material, land, working hours, local-level knowledge on ecosystems). A lack of support or active disapproval can therefore lead to much longer implementation processes or mistrust of governmental institutions and less legitimacy of the envisaged solutions [21,31].

Co-governance can only effectively influence water management if all the relevant levels are interconnected [32]. The successful implementation of EU directives (at the top-level) thus requires a good connection and alignment with the ambitions of local and/or regional stakeholders (at the bottom level) who live and operate directly "within" the ecosystem [25]. This means that there is no one-size-fits-all solution for water co-governance and that measures and governance arrangements need to be embedded in the local context and existing power structures [23,33]. The transnational discussions at the start of the WaterCoG project also showed that governance connections are often fragile.

Partners assume that the co-governance approaches support and strengthen the connection between top-down and bottom-up ambitions [34]. In the evaluation, we studied whether the stakeholders' experiences confirmed the assumption and identified implications of the design and implementation of successful co-governance processes.

1.2. The Role of Knowledge and Tools in Complex Water Management

Water resource management is a typical example of a wicked problem [35]. Therefore, assessing the impact of management decisions on water resource management requires a great deal of information and expertise. We studied how the pilot processes accommodated tools and knowledge.

Technical guidance for practical management e.g., [36] plays a central role in predefining modeling tools and technical expertise, which form a central basis for most formal water-management processes [37]. An imbalance among stakeholders and their knowledge is one challenge in co-governance processes. Access to and discussions about trustworthy data is a key factor both in stakeholder involvement and in citizen engagement. Imbalances in knowledge or different interpretations of knowledge have a large impact on the decision-making process [22,38]. For example, the knowledge of spatial planning experts differs from that of water managers, anglers, or local farmers. Interestingly, it seems that in the actual decision-making process, fact-based information is not always the main reason for a specific outcome [37,39–41]. This points to the need for social learning processes. Social learning facilitates moving jointly from negotiating assets to learning about different interests and developing new solutions [42]. More specifically, since water management is about balancing different interests, conflict resolution approaches can help to distinguish between the content-related fact level and the process-related level. The processes need to support stakeholder interests such as trust, confidence, consistency, honesty, and relevance [43].

In the pilot schemes, knowledge was integrated using different approaches, ranging from modeling to local excursions and citizen science. We have looked at the processes to help us understand whether the different approaches changed the role knowledge played, and whether this contributed to successful co-governance processes.

1.3. Process Design and Process Lead in Co-Governance Processes

The WaterCoG project has aimed to provide guidance for practical process design and implementation. In the evaluation, we studied the role of the person leading the process as well as the process design.

The process leaders' main objective is not to be a mediator or to make decisions, but to facilitate the process so that stakeholders themselves find the solutions [44]. They can steer the process in different ways and choose methods and tools. This role gives them power to manipulate the process, especially as they might have their own agenda, foundation of understanding, or need to support the project [45]. Our assumption was that proficient facilitation and design is required to ensure a fair and inclusive co-governance process in the sense that all relevant stakeholders have their say and can actively contribute. Participatory approaches also provide an advantage to stakeholders who are well-experienced in group situations, and are able to dominate a discussion. Studies still show a discussion in academia about the conditions under which participatory approaches lead to better environmental outcomes [23,46–48]. In our evaluation, we analysed how design and the role of the facilitator can ensure the inclusiveness and balance of the process.

In the next section, we present our methodological approach for the evaluation. The results are then presented and discussed by referring to key messages developed to highlight the benefits of co-governance for sustainable water management.

2. Data and Methods

Stakeholder collaboration processes are considered to be very context driven [21–23,33,38], and seem to be difficult to replicate and control. Consequently, the WaterCoG project im-

plemented sixteen unique local pilots (of which eleven were evaluated) to gather more experience on whether and how water co-governance contributes to sustainable ecosystems.

The evaluation aimed for qualitative evidence. Designed as a transnational project supporting practical water management, qualitative evaluation allows the largest degree of freedom in terms of focus and methodological implementation. Still, the research team developed a general framework for the evaluation [49]. It integrated the guiding questions the project partners had developed:

- What are the different approaches and were they successful?
- Who/which organizations were involved?
- Do the stakeholders feel empowered?
- Are they now more committed to water management?
- What was the impact on the ecosystem?
- Could we convince the stakeholders to follow our arguments?
- Could we convey our messages/facilitate the information?
- What needs to change to make co-governance work better?
- How can we improve the knowledge base?
- How do we provide ‘space’ for bottom-up co-governance? How strong/powerful can the initiator of co-governance be?
- How can we shift from verbal support to action?
- Where is co-governance an advantage?

The project partners in each participating country were invited to specify their regional focus within the three themes presented in Section 1, and decided on their own participatory approach for the evaluation, involving both participating and hosting stakeholders (see Table 1 below). For each country (United Kingdom, Denmark, The Netherlands, Sweden, and Germany), a local researcher developed an evaluation report supported by a review process with two more researchers from the WaterCoG team [50–55].

Due to limited resources, we evaluated eleven out of sixteen pilots. The country partners chose to evaluate those pilot co-governance processes that they wanted to learn more about.

In addition to the work in each country, an essential part of the evaluation was a transnational discussion of the country results among the project partners. Next to regular discussions at the partner meetings, the consortium at the WaterCoG evaluation workshop in June 2019 in Copenhagen discussed the country reports to identify national similarities, to learn about new aspects of co-governance, and to capture the essence and main messages learned from this part of the evaluation process. Acknowledging the sensitive nature of many insights provided in the evaluation process, we have chosen to anonymize some of the examples provided in the report in order to include the more important lessons for implementing effective co-governance processes.

In this paper, we synthesize and summarize the findings from this evaluation process. For further information, see the full evaluation synthesis report [48].

Table 1. Scope and method of evaluation for international pilots.

Land/Location	Scope	Evaluation Approach
Denmark—local scale pilot, between December 2018 and June 2019 [51]	Holistic plan for Ryå (Ryå project): the development of a holistic plan to the many opportunities and challenges that exist in the Ryå catchment to work towards facilitating multiple ecosystem services (e.g., flood protection) and stakeholder participation Combination of regional working groups and local working groups with organized stakeholders.	Semi-structured interviews with five key stakeholders. The evaluation included the process until June 2019; the pilot process was not finished by then.

Table 1. Cont.

Land/Location	Scope	Evaluation Approach
Germany—local scale pilot between May 2016 and November 2019 [52]	Round Table Grossenkneten: open stakeholder meetings in two parallel working groups with different thematic focus. The pilot scheme tested the Round Table as an innovative cooperation with local stakeholders for better reaching agreement on groundwater management.	Semi-structured interviews with four key stakeholders, evaluation workshop with hosts and participatory observation of meetings. The evaluation included the full process until June 2019; the pilot process was not finished by then.
Sweden—for local/regional scale pilots between Dec. 2016 and Nov. 2019 [53]	A total of 50 collaborative, participatory, and social-learning-related methods based on a trust-producing approach (access, standing, and influence [14]) with the help of a resource person and a reflective process: in four pilots in three Water Councils; Mölndalsån's, Himleån's, and Ätran's Water Council, partly with different working groups to test the potential contribution of Water Councils towards better implementation of WFD-related river restoration and agriculture related issues.	Participatory and unstructured observation at series of evaluation workshops, river walks and ordinary meetings. with all participants (about 60 stakeholders and other actors from the pilots in total) and an additional meeting with participants not just from the pilots (about 100 participants). Semi structured interviews and unstructured interview with few stakeholders to clarify some workshop results and a conflict situation.
The Netherlands—three pilots from local to regional scales between 2016 and 2019 [54]	Texel pilot scheme: set up a cooperation process with farmers to deal with salinity in irrigated areas. Oude Diep: evaluating the need for more co-governance approaches/tools as climatecafe and climatescan. Climate Resilient Cities and Climate Atlas: providing a knowledge platform for fostering climate change adaptation.	Evaluation workshop with pilot owners (three key stakeholders). The evaluation asked for reflection from the start of the process until May 2019. All processes continued afterwards.
United Kingdom—two catchment based pilot schemes. Both processes started before the project (2011/2013). [50]	CaBA approach implemented in two pilots: the Cam and Ely Ouse (CameEO) catchment, and the Wharfe and Lower Ouse catchment.	Semi-structured group interviews with sixteen key stakeholders. The evaluation invited reflection on the full process and the status in 2019.

3. Results and Discussion

The central messages identified by the project partners during the evaluation process provide the structure in this section. These messages were grouped under three themes as described in Section 1. They can be found in the final report [55] (p. 5). However, in order to provide a more concise paper, we chose to present only five of the eight in more detail. They have been assigned to the three themes as follows:

Connecting governance levels

- Message 1: A co-governance structure without a defined mandate for legitimacy is toothless.
- Message 2: Citizens need to be more involved in ubiquitous and complex challenges, such as climate change adaptation. They need to appreciate their own potential for action.

The Role of knowledge and tools

- Message 3: Stakeholders think of access to data, evidence, and understanding as particularly important for co-governance processes.

Design and implementation of co-governance processes

- Message 4: Stakeholders engage in longer co-governance processes if they identify benefits for themselves.
- Message 5: Co-governance needs a targeted process design and its review at regular intervals.

These messages reflect the aspects closest linked to social learning and are the most important to consider when initiating co-governance processes.

3.1. Connecting Governance Levels

Two messages in particular relate to the successful embedding of co-governance in the broader context of water governance: (1) co-governance processes need a mandate, and (2) local citizens need to be involved.

3.1.1. Message 1: A Co-Governance Structure without a Defined Mandate for Legitimacy Is Toothless

The evaluation showed that processes get more support from stakeholders and seem to have more impact if they have a mandate. In this context, a mandate refers to an agreement among the participating stakeholders, which defines the scope of the co-governance process, its objectives, and the relevance of its outcomes. A mandate connects co-governance structures to decision-making and funding structures. If there is a need for measures and actions in the area (e.g., the river catchment), a mandate helps representatives to mobilize resources in their organizations or allows applying for public funds. From the perspective of social learning, a clear mandate thus confirms the relevance of the process and enables engagement.

For example, in the Danish Ryå project, the involvement of politicians and higher-level authorities gave the water managers more room for facilitation since the leaders of the municipalities and politicians had already legitimized the process and therefore did not question its necessity. This was confirmed e.g., by a Danish interview partner: "(...) when the politicians and the chairman and vice-chairman in the municipality have nodded to the strategy, I sleep quietly at night, so I know what I'm doing is legitimate" [51] (p. 10). In the UK, "in most cases, funding cannot be granted directly to the catchment partnerships because they have no formal status; and thus, it is granted to the lead organization for a specific project, which is perceived by those involved to result in a power-over rather than power-sharing situation" [50] (p. 10).

In some evaluated pilots, the co-governance structures complemented less participatory approaches, and those with a clear mandate and scope contributed to a better link between different decision-making bodies. For example, the Swedish evaluation [53] showed that there was a need for neutral forums for vertical and horizontal meetings when handling complex issues. The Swedish Water Councils were filling this function mainly horizontally at a local level, but also vertically when a representative of higher-level authorities joined the meetings.

However, a mandate that has not been actively discussed and agreed upon loses most of its value. In one pilot, the objective was defined top-down by the host, and presented only once by the process manager with no explicit agreement, disagreement, or expressed need for adaptation. The official objective was to find solutions and create a shared understanding of the pressures on the water system. The process took place in the context of a highly escalated conflict, and over two years some of the stakeholders dominated the discussion aiming to stop the current water-management approach. There was no explicit acknowledgement of or agreement to this new objective by the rest of the group. It seemed that only a little social learning in terms of developing a shared understanding of the water system was visible, e.g., in stakeholders referring to others' perspectives. In addition, during the interviews, most of the stakeholders were still interested in finding new solutions for dealing with the pressures and voiced confusion about the actual scope of the process. In a different pilot, the lack of a clear mandate was linked to a lack of integration: it was not clear who was responsible for bringing together different results, or for feeding them back to stakeholder groups. The situation resulted in confusion among the stakeholders and made them less interested in engagement.

3.1.2. Message 2. Citizens Need to Be More Involved in Ubiquitous and Complex Challenges Such as Climate Change Adaptation. They Need to Appreciate Their Own Potential for Action

Water management directly affects citizens, who in turn influence it, e.g., by sealing their gardens and generating additional storm water effluents to the sewage systems. Literature showed that only together can individual stakeholders and the public take on conflictual area-wide issues such as urban climate change adaptation or other environmental issues [43,56]. In our evaluation this was confirmed in the Swedish pilots: two of the Water Councils invited additional stakeholders to improve local awareness [53]. Some of the new participants were landowners interested in implementing voluntary measures for several reasons: they wanted to lead environmental adaptation; they wanted to contribute to the common good; they saw the measure was connected to a better long-term economy; or they expected the measure to become obligatory in the future. They assumed that if they implemented it earlier, they would have the opportunity to influence it to fit existing plans.

In the other pilots, the lack of measures' implementation could be attributed to a lack of active citizens such as landowners. The Dutch pilots needed much more effort than originally expected to inform citizens of climate change impact and adaptation options as well as to convince them of the need to take responsibility. In contrast, the Dutch pilot on climate-resilient cities used events and communication activities to create the feeling that "your street" or "your land" was affected. Local policy stakeholders or administration identified with this, and showed more support than in general information events with less connection to their area. This situation led to more citizen involvement [52]. With the number of stakeholders including citizens rising, communication needs to be professionalized and follow a systemic and systematic approach. In one evaluated pilot, the farmer was not directly benefiting from the interventions at all—but the local people downstream were. He had a hard time trying to convince other farmers to take action when there was no direct benefit for them. A communication plan supported by all stakeholders can be useful in such cases.

3.2. *The Role of Knowledge and Tools*

The process evaluation confirmed that the way knowledge is developed and used strongly impacts the confidence stakeholders have in the process. Even though only a few of the pilot schemes' processes reached the phase of deciding on measures, almost all stakeholder interviews indicate that the knowledge gained will stay relevant during the final decisions. For improving co-governance, the results point to the need for robust knowledge and dialogue platforms as an integrated part of the process. In the context of this paper, the stakeholders' access data—including the ability to use it, and trust it—played a more central role for successful co-governance.

Message 3: Stakeholders Think of Access to Data, Evidence, and Understanding as Particularly Important for Co-Governance Processes

Stakeholders acknowledge that water ecosystems are complex and that managing them requires much specialized knowledge related to governance and natural scientific aspects of the water system. Getting access to this knowledge and a better understanding of the ecosystem is a strong driver for many stakeholders to engage in the first place. For example, in the Round Table in Germany, in an almost two-year process much information was provided and explained in order to better understand the groundwater system. Stakeholders greatly appreciated the opportunity, and this access proved the strongest driver to remain involved in the process [54].

Knowledge and Trust

Accessing knowledge has two dimensions: first, technical access to data and evidence, and second, understanding of information/data/facts/perspectives. Many of the evaluated processes paid a lot of attention to how the transfer of knowledge from experts to other stakeholders works. This was particularly important and challenging in cases of contested

or contradictory knowledge. In one of the pilots evaluated, some stakeholders assumed that all data and information offered by the host was wrong or incomplete if they pointed towards a contentious water-management option. For these stakeholders, providing access to more information was not sufficient to de-escalate the conflict. The Swedish pilots avoided one-way-information meetings with advanced, technical/biological explanations or kept them short and enriched with good illustrations. Here, the stakeholders better appreciated new knowledge [54]. In the evaluation workshops, some described a changed perspective on water, and a changed understanding of the processes. The Dutch experience confirmed that information provision alone only contributes to building trust if it is non-conflictual information. If that cannot be guaranteed, it is most important to combine the provision of information with active dialogue formats [52]. This shows that appropriate knowledge management can support social learning.

Integrating Stakeholder Knowledge

Stakeholders are keen to have their knowledge and observations acknowledged and responded to. If there is a (potential) conflict of interests, the integration of data generated by local stakeholders can create trust if it reflects their observations [51,54]. In the Ryå projects process, the type of knowledge that came from the local working groups was practical knowledge showing opportunities: *“At local level, there were some wishes I did not know of, before I had asked. For example, there have been some wishes about having some boat sites at Ryå where the representative from the rural council actually said: ‘The municipality owns that area—why don’t we use that area for something recreational?’”* [51] (p. 22). In the Texel pilot scheme, farmers were very positive about uploading their own monitoring data to better understand the salinity problem on their fields and see the impact of a saltwater weir. This project led to new awareness on management options, and support for the governmental water-management approach [52]. In another, highly escalated process, local stakeholders felt that their observations were not sufficiently acknowledged and considered. In this case, the situation was especially difficult because the distribution of expertise was very imbalanced between the conflicting parties. Stakeholders insisted that the modeling approaches did not appropriately take their knowledge into account and did not trust them. No solution was found within the co-governance approach.

Tools for Knowledge Provision and Generation

WaterCoG project partners tested many tools for managing and providing information (see Table 2). The evaluation found that contributions from often overlooked stakeholders were made visible with tools enabling diverse individual contributions. In the Swedish pilots the participation methods and tools focused on the interaction between the group members. Interestingly, stakeholders who were already prominent in the dialogues did not always see the need for small group/dialogue methods. They were not aware or did not find it relevant that not using the individual part in the participatory methods excluded others. The tools empowered the groups and strengthened the reciprocal understanding of each other’s perspectives and knowledge about water issues [53].

Table 2. Examples of tools applied in WaterCoG pilots to improve co-governance (including awareness raising and citizen sciences. In some countries, the number of documented facilitation tools in the context of the evaluation has been huge, but we limited the table to those tools that played a central role in the evaluated pilot processes.

Collaboration and Participation Tools and Methods	Description	Applied/Results in WaterCoG
Climatescan.org: International citizen science platform	The online knowledge-sharing platform ClimateScan.org contributes to an accelerated climate adaptation by promoting more green and blue spaces in urban areas. See also [8,9].	Climatescan is applied in every ClimateCafe and all WaterCoG pilots are mapped on this platform.

Table 2. Cont.

Collaboration and Participation Tools and Methods	Description	Applied/Results in WaterCoG
ClimateCafe.nl	ClimateCafé is a field education concept involving different fields of science and practice for capacity building in climate change adaptation [8,10].	The Climatecafé method is applied at Oude Diep and Texel in The Netherlands and Transboundary ClimateCafés are held in Germany (Oldenburg,) and Sweden (Malmo and Gotenborg planned for June 2021)
Design for interaction and social learning	A total of 50 collaborative and participatory tools combined interaction, deliberative dialogs, development of shared understanding, reflections, and to some extent reflexivity. They included, e.g., card-sorting methods, prioritization, timeline visualization of a historical sequence of events, river tours, fika (Swedish coffee break), reflective rounds and many more. The tools can be checked in Swedish [57] and a selective list is published in English [58].	Tools in a combination with trust building, democratic approaches, and a process leader supporting the work were successful. In the Swedish pilots, many stakeholders experienced increased learning and support for their process [57,59]. An increase in: trust, participants, activities (for example measures done and planned), number of interests participating, wider perspectives, knowledge (for example ecosystem, water issues, others' perspectives, participatory methods), funding and networks were identified during the project.
Catchment-Based Approach (CaBA)	Inclusive, civil-society-led initiative that works in partnership with government, local authorities, water companies, businesses and more, to maximize the natural value of our environment [58].	The approach has been transferred to Denmark, as a result of WaterCoG.
Round Table	A multi-stakeholder approach bringing together local stakeholders with concerns on water management. It included presentations and integrated knowledge of local stakeholders, e.g., via mapping activities	The Round Table improved the information flow between the host and the stakeholders and provided a unique opportunity for exchange [54].
Field visits and use of models and maps for group discussions	The stakeholders in the Ryå pilot scheme visited nature areas and flood protection measures in Brønderslev and a watercourse restoration project. These field visits were combined with round table meetings. At all meetings expert knowledge (in terms of modeling results and map visualizations) was provided to the stakeholders. At the last meeting in the working group, they had a session with maps where they in groups could discuss what initiatives and ideas should prioritized highest.	As a result of this pilot, the stakeholders developed a basic handbook, where all knowledge was collected [51]. This handbook was one of two main sources for the knowledge integrated in the holistic catchment plan.

3.3. Design and Implementation of Co-Governance Processes

With regard to practical guidance for process design and facilitation, the evaluation results emphasize the need to foster direct stakeholders' benefits of co-governance and to include regular reviews of the process design.

3.3.1. Message 4: Stakeholders Engage in Longer Co-Governance Processes If They Identify Benefits for Themselves

In the process evaluation, all stakeholders involved appreciated the opportunity to get involved. That was also the case if the processes had not (yet) led to specific results. However, many of the interviewed stakeholders also indicated that different cooperation processes were competing for limited stakeholder resources. These processes often add to the existing daily workload. Consequently, stakeholders carefully weigh (potential) benefits of engaging or not in a specific co-governance process. They easily drop out if it does not lead to additional benefits.

Such benefits for stakeholders are not necessarily monetary or economic benefits. Swedish stakeholders, e.g., appreciated the possibility of having a direct and non-official dialog with authorities and decision-makers. Other reasons to attend the meetings were to keep informed about what is going on in the local society and to guard their interests [53] (see also benefits described in relation to role of knowledge and tools in Message 2).

In many pilots, the (potential) implementation of measures provided a major benefit of engaging in co-governance processes in the first place. Some of the most active local stakeholders in the German pilot scheme also engaged to keep control and make sure no bad decisions were taken. Other benefits include the opportunity to protect their environment; to ensure balancing of all interests; to contribute to sustainable water management; or to gain a contract for implementing the measure [54].

3.3.2. Message 5: Co-Governance Needs a Targeted Process Design and Its Review at Regular Intervals

Evidence from the pilot processes demonstrate that the starting point for a co-governance process design needs to be the current interests of the stakeholders and that the process must be developed jointly with them. Its design has to include formats that fit the need for dialogue, sharing different stakeholder perspectives, developing measures or resolving conflicts or other objectives of the process. For example, in the Swedish pilot schemes, brainstorming and card-sorting methods enabled all stakeholders to “have their say” and listen to each other. Tools such as the Swedish “fika” (coffee and cake) or river walks facilitated small dialogue groups as well as exchanges between stakeholders, and brought different knowledge together [53]. In the German pilot, the stakeholders’ call for information led to the provision of presentations on the groundwater management aiming to increase the general understanding on the groundwater systems. Stakeholders appreciated this and perceived it as a sign of transparency [54].

In the Dutch pilots, one success factor for good co-governance was ‘no freeriders’. All attending people needed to engage. The Dutch partners designed the Texel pilot process to prevent situations such as in earlier processes where participants tended to lie back and listen only. The design of the process also allowed for interaction in larger groups, e.g., by including small-group work on vulnerable spots in an area or joint development of small-scale measures [52]. Tools as ClimateCafé and ClimateScan have proven to be successful in stakeholder engagement and knowledge sharing.

Pilots in different countries showed that once the process had been successfully running for some time, stakeholders either dropped out or became passive. Reasons given by the stakeholders for this behavior were either the confidence that the process would produce good results, or the conviction that it was no longer relevant to them.

4. Conclusions

More than 20 years after the WFD was introduced, still many different ways of involving stakeholders can be seen. In this paper, we have shown that through evaluation of 11 co-governance processes, important lessons can be learned for future collaborative governance processes.

Co-governance takes time, needs personal dedication, and opens a new way to water management that brings—like all innovations—uncertainty in process development and

possible results. Enabling social learning makes these processes more successful: better stakeholder-supported processes that had a clear mandate and that included tools featuring knowledge integration and interaction, which are key characteristics of social learning.

The development of a shared understanding on complex ecosystem and water-management issues requires technical access to data and knowledge, a shared process memory (knowledge and dialogue platform) as well as stakeholders who are sufficiently open-minded to find new solutions. Participatory tools such as river walks, dialog instead of discussions, interactive maps, or shared online platforms can build trust. Pilots implementing a strong bottom-up process in a dialogue-oriented setting achieved good results. Proficient process design and facilitation needs to integrate the interests of all stakeholders and to be flexible enough to adapt to changing circumstances (e.g., new regulations or funding opportunities). Only if stakeholders identify sufficient benefits will they engage in the process to find new solutions. Finally, a strong and effective co-governance approach is embedded in existing governance structures and links to the relevant decision-making bodies and processes. More specifically, this means that a mandate clearly defines the scope and the objective of co-governance process, so that stakeholders know why they engage and how the results will be relevant. In addition, such a mandate also provides guidance during the process, and often enables acquisition of additional resources.

Summarizing, this evaluation confirms that co-governance approaches can complement top-down governance approaches if they are carefully designed and embedded, and make use of tools and knowledge. The WaterCoG project has invested its resources to promote sustainable water management with local co-governance approaches. The shared challenges and lessons learnt must be considered for future successful co-governance processes and implementation of water legislation across the EU and worldwide.

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