# Public participation towards the implementation of the EU Water Framework Directive – A means to lessen uncertainty?

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**Topics addressed**: Uncertainties in Public Participation, Implementation of the EU Water Framework Directive, Social Learning and negotiation,

## Abstract

This paper aims to explore, in how far and by which means participation during the implementation of the WFD can contribute to developing more adaptive approaches to water management by fostering social learning as a means to reduce uncertainty.

Emphasis is placed on the results of an evaluation that has recently been conducted in order to investigate the role and potentials of the participatory process according to the WFD in Lower Saxony, Northwest Germany. The most important participatory instruments within the implementation process of the WFD in Lower Saxony are the 30 so-called 'area co-operations'. As a local and direct form of active involvement, the co-operations have been designed as long-term institutions with the aim of contributing to drafting river basin management plans. Focussing on the view of involved stakeholders, the paper analyses the process along eight different criteria to identify social learning within the process of public participation.

## 1 Introduction

Public participation is considered a key issue for adaptive and integrated water management (Pahl-Wostl and Hare 2004; Craps et al. 2005). Within European legislation, the EU Water Framework Directive (WFD) is the first directive that explicitly combines substantive environmental policy goals with public participation. Stringent policy goals demand a 'good status' of most European waters by 2015 (Art. 4 WFD). At the same time, the directive calls for various modes of information, consultation and involvement, which creators of the WFD believe determine the ultimate success of the directive's implementation (Preamble 14 WFD). In line with the subsidiarity principle, decisions should be taken "as close as possible to the locations where water is affected or used" (Preamble 13 WFD). Moreover, participation is expected to enhance the acceptance of decisions by involving the views and experience of those affected by the decisions (Kaika 2003; EU 2002, p 6). Assuming that those who are closest to a problem develop the best understanding of it (Steele 2001; Thomas 1995), it seems plausible that environmental decisions can profit from the factual knowledge that local actors have about environmental issues concerning them (Rydin and Pennington 2000; López Cerezo and González García 1996). Likewise, the authorities in charge depend on the compliance of those actors who, ultimately, will be influenced by the measures conducted. One main challenge of Europe's future water management is thus to translate the WFD principles on public participation to management practice at catchment and sub-catchment scales, where measures will finally be implemented (Jonsson 2005).

But how successful are the participatory instruments implemented according to the WFD? This paper aims to explore, in how far and by which means participation during the implementation of the WFD can contribute to developing more adaptive approaches to water management. Social Learning as condition and goal of participatory processes is taken as preconditions for successful adaptive approaches in water management. The expected outcome of these approaches includes a better reaction in management to uncertainties or even the reduction of it.

Our case of reference is Lower Saxony as one of the German Länder located in Northwest Germany[1]. The paper will be based on the results of an evaluation that has recently been conducted in order to investigate the role and potentials of the participatory process according to the WFD in

[1] In Germany, not the federal government but the Länder are in charge of the WFD's implementation and thus also of the participatory approaches.

Lower Saxony (Ridder et al. 2007). Besides summarising major results of the evaluation it is the aim of this article to further analyse the relationship between participation and uncertainty. The hypothesis is that active participation and social learning leads to reduced uncertainties or at least to faster reactions in management to it. The paper concludes with various policy recommendations to achieve process improvement including reduced uncertainties based on the results of the analysis.

## 2 Participation and social learning to reduce uncertainty?

Participation and social learning cannot be separated from each other. In its easiest form the EU-funded project HarmoniCOP defined social learning as "learning together to manage together" or more precisely "learning in and by groups to handle shared issues…" (Ridder et al 2005, p. 2 and 96). Additionally it is stated that "…the best way to encourage active participation is to foster social learning (Ridder et al 2005, p. II).

According to the CIS guidance document (EU 2002, p. 12), participation can be generally defined as "…allowing people to influence the outcome of plans and working processes" which assumes the integration of individuals and organisations into processes of will-building and decision-making. Considering the different forms of participation as information, consultation and active participation (cf. EU 2002, p. 13), it illustrates that social learning requires active participation to occur. It can be concluded that social learning should be the goal of active participation processes and is at the same time the condition for the sustainability of the process. Taking the results of the HarmoniCOP project as conceptual basis for social learning, it is accordingly not the involvement of the broad public but the active participation of stakeholders[2] that will be analysed.

The meaning of social learning is also recognised for newer – more adaptive – forms of management as "social learning is assumed to be crucial for the transition towards and for sustaining adaptive management practices…" (Pahl-Wostl 2007, p. 56). Adaptive management refers thus to a systematic process, where management policies and practices are continually improved by learning from the outcomes of implemented management strategies (ibid., p. 51).

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[2] A stakeholder is „an individual or group influenced by – and with the ability to significantly impact (either directly or indirectly) – the topical area of interest" (Glicken 2000, p 307).

The connection of social learning and (change) management was not only drawn in the HarmoniCOP project. Also, the EU-funded project SLIM (social learning for the integrated management and sustainable use of water at catchment scale) came to the result that social learning can fill in "a distinctive space for innovation in knowledge processes in conditions of irreducible uncertainty and complexity" (Steyaert et al 2007, p.576). Within the SLIM project the conclusion was drawn that project-internal social learning helped team members to take into account the processes of adaptive management through shared learning (cf. Ison, et al, 2007, p.501).

It becomes clear that the learning element within adaptive management is supposed to better deal with complex situations and uncertainty. Therefore adaptive management can be seen as logical response to the increasing uncertainty in water management due. In its origins, adaptive management mainly focussed on ecosystems. Particularly in the last decades, adaptive management has increasingly embraced the importance of the human dimension (e.g. Berkes and Folke 1998, Lee 1999, cf. Pahl-Wostl et al. 2007). Folke et al. (2003) see social learning as an essential factor to cope with uncertainty and change. The authors emphasize that " ... knowledge generation in itself is not sufficient for building adaptive capacity [...] to meet the challenge of navigating nature's dynamics ... " and conclude that " ... learning how to sustain socio-ecological systems in a world of continuous change needs an institutional and social context within which to develop and act." (cited in Pahl-Wostl et al. 2007).

Likewise, the uncertainties involved in water resource management do not only refer to technical or environmental issues, but to a great extend emerge from the relationship of human's actions and knowledge. As a general definition, uncertainties refer to situations "in which there is not a unique and complete understanding of the system to be managed" (Brugnach et al. 2007: 3). Brugnach et al. (2007) suggest three different forms of uncertainties:

1.   Unpredictability refers to the fact that complex systems, such as river basins, show variable, non-linear and sometimes even chaotic behaviour. In consequence, the systems are impossible to be predicted. The unpredictability cannot be expected to change in the foreseen future and the uncertainties involved have thus to be accepted.

2.   Incomplete knowledge is given, when information and/ or data about a system are insufficient or unreliable. In some cases, this form of uncertainty can be reduced or even diminished over time.

3.        Multiple knowledge frames refers to the uncertainty well known from the social science perspective: it is the relationship of different, and sometimes conflicting, views about how to understand a system". Different actors might associate specific information with different meanings (e.g. about how to define successful water protection or about the priorities of different water management problems). Moreover, there might be contradictory evidence about what the implications of the information are (Brugnach et al. 2007: 5 et seqs.).

In the remainder of this article, we will only refer to this latter definition of uncertainty. Uncertainties in this context "may be framed by the presentation, sources, and social construction of information" (Norton et al 2006, p.2).
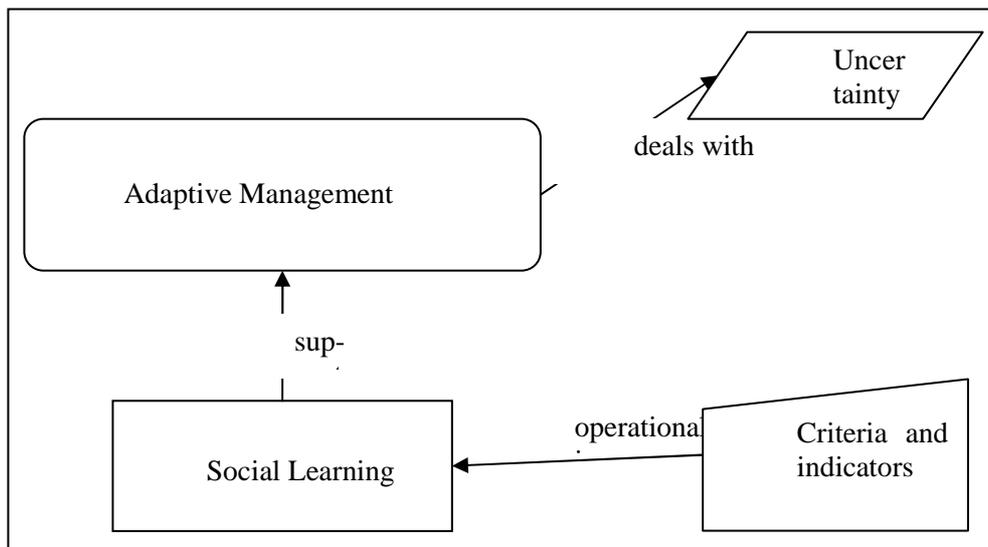


**Fig.1:** Relationship of Adaptive Management, Social Learning and Uncertainty - the basis for analysis

Figure 1 highlights the described connectivity of adaptive management, uncertainty and social learning including criteria as a means for operationalisation. It shows on the one hand the importance of social learning for supporting adaptive management in practise and on the other the connection to uncertainty. It can be concluded that a participatory process striving for social learning helps to reduce uncertainty e.g. by supporting the proc-

ess of defining a common problem, agreeing on a common goal and generally spoken of communicating uncertainty.

In the following the criteria/success factors and their corresponding indicators that will be used for analysis are provided in detail (based on the HarmoniCOP Handbook/Ridder et al 2005). The selection of criteria takes into account that the participatory process evaluated has not yet reached implementation in the field. Critical for operationalising social learning is the fact that criteria and indicators for achieving social learning are often identical with the success factors as conditions for social learning. Taking e.g. a minimum of administrative decentralisation as precondition for social learning, the successful social learning will result in higher degrees of decentralisation. It can be described as a positive feedback. In practise it means to be sensitive even for slight changes in the system if an evaluation takes place.

**Criteria/success factors to identify social learning**

- seek involvement of all major sectors, interests and geographic areas (type and numbers of stakeholders involved)
- effectively communicate the process and role of stakeholders in the process  (number of stakeholders reached with information about the process and role of stakeholders, number of stakeholders that understand the process and their role in it)
- test a range of participation methods (feedback on lessons, methods, workshops, etc.  and suggestions for improvement)
- improve the capacity of the stakeholders to make joint decisions (number of stakeholders thinking the process worthwhile, number of stakeholders thinking their contribution made a difference)
- enhance the mutual understanding of the views and positions of stakeholders (level of understanding of others' viewpoints, way in which conflicts are reported by stakeholders)
- development of a shared perception of problems (common problem definition to start with)
- reflection of the process as such and feedback (reported feedback sessions, evaluations)
- development of new institutions[3] (networks, working groups, new formal and informal relationships)

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[3] We use institutions in an open way comprising organisations but also according to sociological definitions where institutions include norms, behaviour, rules, etc.

Based on the given theoretical foundations it can be concluded that if evidence of all criteria can be proved, the adaptiveness of the water management in Lower Saxony is on its way to increase and hereby reducing uncertainties. Taking the problems of qualitative analysis into account, the analysis part of the paper will provide detailed descriptions of pro's and con's for proving the evidence of criteria.

## 3 Active stakeholder participation in the implementation of the WFD in Lower Saxony

### 3.1 Background for Analysis

As a regional and direct form of active involvement, the Ministry of Environment of Lower Saxony established 30 so-called 'area co-operations' in autumn 2005 (MU Nds. 2005), covering the whole of Lower Saxony. They have been designed as long-term institutions with the aim of contributing to the implementation of the WFD. The area co-operations typically consist of approximately 15 participants representing different regional organisations, including water management, agriculture and nature conservation. Hereby they meet to a large extent the criteria for active stakeholder participation. Even though the official consultation process at the level of whole river basin districts, which started by the end of 2006, can also influence the implementation of the WFD, the most important discussions, and perhaps decisions, will take place within these area co-operations as institutions of active involvement (Kastens and Newig in press). Other organisational and participatory bodies dealing with the WFD in Lower Saxony are

- regional fora as a means mainly to inform the larger public at the regional level,
- a council at the Länder level as a means to inform and to some extend consult representatives of stakeholder organisations at higher scales and
- different technical boards on the Länder level to discuss the legal and technical demands of the WFD.

For reasons already explained, this paper takes only into account the evaluation results considering the area co-operations. The objective of the original evaluation was to assess the participatory process from the viewpoint of the stakeholders. Accordingly the process satisfaction was one element of the evaluation. Another objective of the evaluation was to gain insights in how far ‚learning' processes among stakeholders of the area co-

operations already took place that may improve the sustainability of future decisions concerning measures and actions to be taken.

The empirical research for the evaluation was conducted by the use of semi-open questionnaires. The distribution of the questionnaire was carried out by the Ministry. The return of questionnaires went directly to the evaluation team. The return of questionnaires out of the area co-operations was with more than 80% highly representative and also the return by sectors (e.g. water management, agriculture, nature conservation) remained representative.

Focussing on the view of stakeholders involved, the evaluation identified different factors of participation that are judged as main aspects for the effective co-operation as to be named: reasons for participation, financial resources and effort, representativeness and continuity,  networks, transparency and inclusion of own interests, satisfaction with the process, conflicts and the effects of participation. For the purpose of this analysis focussing on social learning as prerequisite for better dealing with uncertainty the results will be analysed in regard to the defined criteria and indicators of social learning. Additionally, this analysis will consider the participatory methods used and in how far reflection and feedback were considered as important elements of the participatory process.

## 3.2 Results under the light of social learning and uncertainty

Chapter two introduced eight criteria of social learning. In the following section, we take a closer look at these criteria to analyse the process of active participation in Lower Saxony in terms of its potential to encourage and to measure social learning processes as an indirect means for the reduction of uncertainty. Some of the criteria are dealt with in only one of the following sections, others are more cross-cutting and their indicators can be found in more than one of the sections. For a first overview, the table two lists again the eight criteria and shows, by which indicators and additional factors they are further operationalised within our evaluation. The table also provides a first overview in how far the participatory process in Lower Saxony fulfils the selected criteria.

**Table 2**: Criteria for social learning in active participation and their analysis results for the area co-operations in Lower Saxony. *: • • • = completely fulfilled, • • = partly fulfilled, • not fulfilled.

| Analysis criterion | Indicators and additional factors | Evaluation Results* |
|---|---|---|
| 1. seek involvement of all major sectors and interests and geographic areas | type and numbers of stakeholders involved representativeness and continuity | • • |
| 2. effectively communicate the process and role of stakeholders in the process | number of stakeholders reached with information about the process and role of stakeholders, number of stakeholders that understand the process and their role in it<br>effects of participation in terms of developing a common perspective and vision of the participatory process and a better understanding of each other's positions | • • |
| 3. test a range of participation methods | feedback on lessons, methods, workshops, etc. and suggestions for improvement | • |
| 4. improve the capacity of the stakeholders to make joint decisions | number of stakeholders thinking the process worthwhile, number of stakeholders thinking their contribution made a difference<br>time and work afforded by stakeholders for the process<br>Inclusion of interests, Transparency and inclusion of interests | • • |
| 5. enhance mutual understanding of the views and positions of stakeholders | level of understanding of others' viewpoints, way in which conflicts are reported by stakeholders | • • • |
| 6. development of a shared perception of problems | common problem definition to start with<br>effects of participation in terms of developing a common perspective and vision of the participatory process and a better understanding of each other's positions | • • • |
| 7. reflection of the process as such and feedback | reported feedback sessions, evaluations | • • |
| 8. development of new institutions[4] | networks, working groups, new formal and informal relationships | • |

[4] Here, it must be taken into consideration that the process is relatively "young". It can be assumed that results will improve once implementation starts.

### 3.2.1 Representativeness and continuity

Participatory processes will only lead to sustainable results that avenue into commonly supported implementation, if all stakeholder groups are sufficiently involved and represented (cp. EU 2002: 27). Further, to build up a common knowledge basis, also the continuity of the participatory process is important. Continuity in the context refers to both the regularity of meetings and information exchange and the constant representation of an interest group by the same person without frequent deputyships by colleagues. Only then, the participants will get the opportunity to learn from each other and to assess the other participant's competences and interests. Moreover, particularly in processes at the regional and local scale, the continuity of participation is seen as a precondition for trust development (EU 2002: 82). The investigation of the representativeness and continuity of participation corresponds with the first criterion, namely the search for involvement of all major sectors, interests and geographic areas. For the area co-operations in Lower Saxony, this criterion is mainly fulfilled: 78%[5] of the interviewees confirmed the continuity of participants in the area co-operations. The analysis also revealed that the administrative counties and local authorities and the agricultural organisations are represented by more participants than the other stakeholder organisations. Although there is an overrepresentation by single interest groups, 73% of the interviewees agree that all groups and organisations, which have or could have a stake in the implementation process of the WFD are represented. Only 15% think that further stakeholders should be involved and mainly refer to organisations of nature conservation.

In the context of representativeness, the distribution of votes was nevertheless criticised by some interviewees. The area co-operations follow an equity approach, where all participants have the same voting right. Due to different resources and spatial misfits (Moss 2003)[6], some stak-

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[5] The percent values are based on a first analysis. Slight data changes from the final analysis are possible.

[6] The area co-operations are arranged at catchment scale, whereas many stakeholder groups are still organised within administrative boundaries. Thus, many of the organisations have a stake in more than one catchment and, vice-versa, the catchments often cross the boundaries of administrative areas. As a consequence, some stakeholder groups take part in the co-operations with different representatives from different administrative areas, while other organisations that have either been able, or, due to personal resources, needed to organise themselves in catchment-based boundaries, are represented by fewer persons. For more details

holder groups, such as the administrative counties or agricultural organisa-tions have more seats in the process than other groups, such as environ-mental NGOs or water boardsSome participants are of the opinion that not all decisions so far taken in the process were made on the basis of fair rep-resentation. They think that within the area co-operations, the proportion of votes is not weighted correctly, since the "*one head – one vote regula-tion cannot lead to appropriate results*", and since the co-operations are "*partially over-staffed with agriculture and administrative counties*".

It has to be considered that participatory processes involve stake-holder groups with different organisational structures. While some groups, such as agricultural or water associations, have a clear profile, also groups with a less precise profile are involved. In Lower Saxony the latter holds particularly true for the environmental NGOs. On the basis of the WFD's water management approach, these groups have organised themselves at catchment scale in the form of umbrella organisations composed of all NGOs with environmental and nature protection objectives. For each of the area co-operations, a representative of one of these organisations was named as the participating stakeholder. Consequently, the environmental NGOs in the area co-operations are represented by persons with very dif-ferent organisational and working backgrounds. This leads not only to dif-ficulties in the coordination of environmental interests. Also, communica-tion structures are far more challenging for the umbrella organisation and its members than for other stakeholder groups with a more uniform struc-ture.

In conclusion it can be stated that the criterion of representative in-volvement including all major sectors and interests is mainly fulfilled. Concerning the representativeness, some further discussion is needed in terms of the one head – one vote approach that is followed in the area co-operations.

### 3.2.2 Efforts for participation

More than 80% of the participants take part in the process within their regular occupational time. Neither these participants nor the members, who volunteer their time for the process, receive allowance from an official side, such as the government of Lower Saxony. For most of the partici-pants, the monthly effort to prepare for the meetings averages five to ten hours. Only about 18% of the participants dedicate between 10 and 20

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on the problem of spatial misfit in the area co-operations of Lower Saxony, see (Kastens and Newig 2008).

hours or more. Particularly the voluntary participants invest more time. Nearly 70% of all stakeholders regard their competences and resources as sufficient to represent their organisation. Yet, only about 53% think that the effort is also worthwhile compared to the results so far reached. Interestingly, particularly those participants, who invest high amounts of time for the process are less critical and think that both their resources are mainly sufficient and their effort invested is worthwhile.

The judgement on whether the own efforts pay off in the form of acceptable and agreeable process results or not is important to ensure that all participants are satisfied with the process. This satisfaction is a precondition for social learning. As indicated by criterion four in table 2, the capacity of stakeholders to make joint decisions is strongly dependent on whether the stakeholders perceive that their contribution makes a difference and their efforts are worthwhile. In this context, the stakeholder's judgement on the efficiency of the effort they put in the process stay indifferent. Only the half of the interviewees perceives their input and work as worthwhile and deciding for the process. Moreover, where resources are seen as insufficient, the removal of resource gaps is mainly seen in the responsibility of the government and authorities in charge. This aspect is crucial as it makes clear that the implementation of the WFD is still seen as a task that is initiated externally (e.g. by the government or the EU Commission) and was not adopted as a beneficial local to regional instrument for an improved water management. The awareness for water management as a collaborative challenge, however, has accordingly to be intensified.

### 3.2.3 Networks

By initiating direct and regular contact, participatory processes can provide a platform to motivate collaboration, socialising and the development of trust between the different stakeholder groups and hence offer the opportunity for building up and improving networks. The development of new institutions in form of networks, working groups and new formal and informal relationships is a major criterion for social learning in participatory processes.

In our case study of Lower Saxony, different forms of new institutions can be investigated. First, the area co-operation themselves have to be seen as a new formal institution to find a common way for authorities in charge and stakeholders to successfully implement the WFD. However, this institution is not the result of social learning, but of putting the participatory requirements of the WFD into practice.

At first place the area co-operations allow active stakeholder participation to happen in the water management procedures of Lower Saxony. Second, within the area co-operations, smaller working groups composed of parts of the participating stakeholder groups are established on demand to clarify specific implementation questions and/or data inquiries and feedback their results into the larger group. Third and finally, the evaluation confirmed that nearly 60% of all participants have improved existing and/or established new ties with other stakeholder organisations as well as authorities in charge. Most deepened and new contacts refer to representatives of organisations that belong to the same sector but to different geographical areas. Particularly the fishery and environmental organisations established concise new contacts with foreign organisations, such as administrative counties and local authorities, but also agriculture.

To sum up, the criterion of developing new institutions is comprehensively fulfilled within the participatory process of Lower Saxony. Not only the area co-operations themselves have already to be seen as a new institution, but also smaller working groups and new and tighter contacts between stakeholders as well as between stakeholders and authorities are developed within the still early stage of the co-operation and contribute to the water management network in Lower Saxony.

### 3.2.4 Transparency and inclusion of interests

Successful participatory processes are perceived as transparent, if the participants are able to relate the contents and decision making to the implementation results and if the trust in the process is given (EU 2002: 78). Moreover, transparency helps to incorporate the various interests of the different sectors involved in the process. The investigation of transparency and the inclusion of interests serve as further operationalisation of two criteria, namely the criteria number two and four in our table as preconditions for social learning. Referring to criterion number two, the process and the role of stakeholders has to be effectively communicated by making sure that all stakeholders are provided with sufficient information about the process and the role that stakeholders have in the process. Moreover, all stakeholders need to understand the process and their role in it. Criterion four refers to the improvement of the capacity of the stakeholders to make joint decisions, which is confirmed by the number of stakeholders thinking the process worthwhile and number of stakeholders thinking their contribution made a difference (see table 2 and section 2).

In general, the majority of stakeholders (72, 5%) consider the process and information flow as widely transparent. Yet, 27% of the participants remain sceptical. They criticise that the amount of work and the strict

time scale of the implementation leaves virtually no room for detailed processing and development of the implementation steps. Moreover, some participants stated that the management of the co-operations lacks neutrality in discussions and that data and information is often not sufficiently taken into account by the authorities in charge. The importance of transparency is underlined by the participant's judgement on their opportunities to bring in their own interests.

Nevertheless also here a smaller majority of 55% approves that they get the possibility to bring in their interests. However, many interviewees also stated that the right of bringing in stakeholder's interests is formally given, but not fully possible in practice. Nearly 28% of the participants emphasised that their information and data input are not adequately taken into account by the authorities in charge for the implementation. Ten participants even stated their impression that the results so far conducted within the co-operations did not have any influence on the decisions at higher levels. Often and even on request, there is moreover no sufficient feedback on why specific contributions have not been taken into account.

An important document for the understanding of the participant's role is the edict that was established by the Ministry for the Environment of Lower Saxony for the institutionalisation of the area co-operations (MU 2005). It clearly states the intentions of the co-operations and the role of stakeholders within it. According to the edict, the area co-operations should support the dialogue between water authorities and stakeholders at the regional and local catchment scale and initiate an alliance between all partners. Moreover, all participants pledge themselves to active work within the co-operations and should act as multipliers to feedback the co-operation's results to their own organisation and vice-versa (ibid.: 2). The role of participants is described as actively constructive by giving recommendations and decision support to drafting river basin management plans, while leaving the final decision competence to the state authorities (ibid.: 3).

While both the authorities in charge and the participants have a fairly similar understanding of the process' aims, the participant's interpretation of their own role within the area co-operations is not completely congruent with the understanding manifested in the official edict. The evaluation showed that the participants see their role mainly in protecting their own interests. Often, the interviewees also stated that they participate within the scope of their official job position. Even though the possibility to influence the WFD's implementation at the regional and local scale is clearly intended by both the authorities in charge and the stakeholders, the primary aims of the edict, namely to build up an alliance between all par-

ties in water management and to receive active and constructive work by the participants in order to achieve a better implementation does not seem to be the stakeholder's first ambition to participate. Clarification by the authorities in charge is also needed in terms of the stakeholder's role as addressees of assignments of tasks for the implementation. Interviewees stated that assignments are often too late and imprecisely defined. In consequence, the participants neither have enough time to fulfil the tasks nor understand their roles within the jobs. The evaluation also made clear that the participant's role as multipliers still needs intensification in terms of bringing information from their home organisation into the process and vice-versa. As stated before, the stakeholders claimed for a stronger involvement of environmental interests. This claim does not necessarily mean that only further environmental stakeholders have to be involved to receive more environmental information as a basis for decisions. Since particularly at the regional and local scale many water managers of municipalities and administrative counties are in charge of both the water management and the nature protection within their territory, the claim for more environmental representation can thus also indicate communication gaps inside these administrative bodies.

To summarise, most participants perceive the process as transparent. Yet, the area co-operations have a significant backlog demand concerning the authorities' consideration of and feedback on the input that the stakeholders give during the process. The same holds true for the assignment of tasks in which the stakeholder's role have to be defined more precisely by the authorities. Particularly to provide the opportunity of joint decisions within the co-operations as a significant condition for social learning, the stakeholders clearly need to see that their contributions are taken into account in the official implementation process and that their work within the process is a necessary assistance. To avoid later disappointment, the role of stakeholders in the process has to be clearer pointed out and probably partly even negotiated.

### 3.2.5 Applied tools in the process

To foster social learning and to engage all important stakeholders in the process, the Harmoni-COP handbook advises to invest time and money in adopting different engagement methods and tools (Ridder et al. 2005: 20). Maurel et al. (2007, p. 632) state that "information and Communication Tools such as models, scenarios, workshops or role plays are used in participatory processes to facilitate Social Learning. They support interaction between stakeholders through two-way communication processes". The authors see a clear connection of social learning to the water management

process as such and therefore try to categorize different IC-tools in regard to their usability for social learning to criteria as uncertainty management. Here, they expect "an important function of IC-tools as being able to handle and to communicate uncertainty. The stake is to convince participants that the decision process is at least as important as the decision output, because the output will have to be modified in the future due to uncertainty" (ibid, p.633). The effective use of different methods at different phases of the participatory process is thus a success factor for social learning (cf. Ridder 2005). Methods and tools range from participation methods that are more ambitious for the moderation, such as group model building, problem-cause analyses or role playing games to those tools that are more technical or easier and quicker to implement. Examples for the latter are the application of geographic information systems, brainstorming methods or the implementation of websites.

Within the area co-operations in Lower Saxony only few methods could be investigated. Area co-operations also work together in smaller regional working groups and topical working groups and area co-operations established a closed platform on this webpage for internal information exchange. Further, several German *Länder* initiated a common website (www.wasserblick.net)[7] to provide information on the implementation of the WFD for the broader public as well as stakeholders. Moreover, the implementation process is supported by land-use modelling and GIS tools although their participatory potentials are not yet discovered. Their use in the context of participation is mainly aiming for the provision of data and information to the public. An important method to assess the engagement and the satisfaction of stakeholders with the process is the evaluation of the area co-operations on which this analysis is based. The evaluation was initiated with the clear ambition of the ministry to attain more information of how the stakeholders perceive the process and if and how the process can be improved. It is thus both an essential to find out more about the stakeholder's satisfaction with the process and a confirmation that the authorities are clearly interested in a successful process.

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[7] The web sites are also used as an information tool fort he broad public. In the context of this paper, however, we do not focus on the different forms of participation, such as information, consultation and active participation, but precisely ask for those methods and tools established during the co-operations to support active participation. The web sites are thus understood in their function as knowledge exchange platforms for the area co-operations.

Yet, within the single processes of the area co-operations, the application of participation methods remains rather weak. Particularly concepts, such as group model building, development of scenarios, role playing games or mental modelling that are helpful for trust building, understanding each other's viewpoints and generating additional knowledge do not seem to find any application within the co-operations. Also, the potential of tools and methods for reframing positions and learning options as basis for social learning and more adaptive management is not fully recognised. It raises the question where and in how far participatory methods and tools could further support the development of the programme of measures.

### 3.2.6 Effects of participation and conflicts

Participatory processes are usually initiated in order to improve policy solutions and implementation decisions. Also, within the scope of the WFD, participation is not an end in itself, but provides a basis for better implementation of measures to achieve the environmental goals of European water management (EU 2002: 7). These "material" results are generally better achieved, where participants develop a common appreciation of water protection and its challenges as well as the interests of other groups. This goes along with the aptitude of knowing and accepting different perspectives of problems. A further, ambitious, goal of participation is to intercept and solve conflicts before they block the goal achievement. In how far the participatory process in Lower Saxony lives up to these expectations was investigated by asking the interviewees for potential and actual conflicts within the process.

The evaluation revealed that all partners agree that the WFD has to be implemented, that the European water management goals more or less have to be achieved until the year 2015 and that, at least, infringements have to be avoided. However, as to the question, whether the active involvement will finally contribute to a better water status, the interviewees remained indifferently. While 45% expect an improvement, about 17% expressed that they are presently not able to estimate the consequences of the process. In many cases, interviewees emphasised that particularly active involvement provides more than other forms of participation the opportunity for a better water protection. Yet, several uncertainties were highlighted and lead to the general impression that most participants only expect the achievement of water protection goals, if certain conditions are fulfilled. To these belong the dismantling of misgivings, the development of a group feeling for the water management goals, the willingness to compromise, funding possibilities for measures and a greater public awareness of the WFD's goals.

Nevertheless, in many cases the process was seen as a support to achieve a better understanding of water protection issues and concrete measures. 74% of the interviewees noted that the process of active involvement improves the co-operation and enhances a mutual understanding of different interests, but only 27% also gained new perspectives on their work in water management due to the process. Yet, interestingly 80% of those participants who gained a new perspective also confirmed that they intensified and enlarged their network due to the participation in area co-operations (cf. section 3.2.3).

Concerning potential or actual conflicts, half of the interviewees do not perceive great difficulties or conflicts. 25% of the participants, however, named concrete conflicts and are more pessimistic on their solution due to large differences between the interest groups. Named conflicts referred to differences in environmental or water and economic interests, definitions of water management and their consequences for measures to achieve the goals as well as methodological problems in terms of the operationalisation of the European water legislation. The conflicts named usually referred to the different interests of the various groups involved rather than individual participants. Most of the interviewees, who named actual or potential conflicts, are also confident that most of the difficulties will be solved within the area co-operations and that the active participation supports negotiation culture and the finding of consensus and compromises.

In some cases, the potential of the process to solve conflicts is however doubted. Solutions are rather expected to come from external influences, as these participants perceive also external factors, such as financial resources for the implementation, as the reasons for conflicts. To some extend, the externalisation of conflict solutions might also be related to a lack of competence for decision making and the unwillingness to take responsibility for problem solutions. In general, the solving of conflict is rather seen as an issue in the competence of the authorities in charge rather than the whole group. The trust and the feeling to take more responsibility for the outputs of discussions has thus to be strengthened, e.g. by evincing that the stakeholder's contributions are taken seriously and are implemented as far as possible.

All issues just explained, link to several criteria of social learning: criterion six, the development of shared perception of problems, refers directly to the aspect of a common perspective and vision of the participatory process and a better understanding of each other's positions. Also, the effects of participation are related to criterion two in terms of the effective communication of the process or, to be more precisely, the understanding

of the process by the stakeholders. Finally and once more, criterion five has a direct link to the issue of conflict communication, since mutual understanding of the views and positions of stakeholders, e.g. by understanding others' viewpoints or the way in which conflicts are reported by stakeholders, is a crucial precondition for social learning.

## 4 Conclusions

The most important result of the conducted evaluation is that the in Lower Saxony established area co-operations are considered by the stakeholders themselves as effective means for active participation. Overall, the analysed process shows several signs of successful social learning. Accordingly, it can be assumed that adaptiveness of Lower Saxon water management increases and uncertainty can be better dealt with (cf. chapter 2). While some factors of Social Learning, such as the development of new institutions or the utilisation of tools and methods to support the process still remain weak within the current process, other factors are already fulfilled or are at least on a good way. The process especially enhances the mutual understanding of the views and positions of stakeholders and already helps to develop a shared perception of problems. Despite the relatively positive evaluation in regard to the selected criteria and indicators it is no guarantee for a positive continuation of the process. It has to be taken into consideration that the process is still "young" and the implementation of measures has not yet started. The early stage of the co-operations implies both that further process improvements are possible, but also that it is still a long way for the process to the achievement of water management goals of the WFD. Particularly in the context of finding the right measures to achieve the WFD's goals, potential conflicts are expected by the stakeholders due to different interests. These conflicts may be even worsened by the fact that financing of measures remains unclear. Here, the analysis showed that the necessary transparency of the authorities in charge is still not given. Important aspects for process improvement thus refer to a stronger ownership of the process by both the authorities in charge and the stakeholders,

An issue not yet raised is the potential generation of perceived uncertainty through participation. The analysed aspects of information management have depicted how important but also how difficult it is to select the relevant information, provide it at the right moment with the right means. If too much information is provided – leaving stakeholders alone to prioritise - it may increase confusion and actually decrease knowledge. This way, uncertainty which often stakeholder may not have been aware of

(uncertainty by limited knowledge) has been transformed into uncertainty due to acknowledged complexity or due to acknowledged difference in the multiple knowledge frames. This underlines the statement of Newig et al. (2005, p. 10) that communication of uncertainties may be rather time-consuming; it increases the complexity that the involved actors have to grasp and process and may therefore add to the generation of uncertainty. Moreover, uncertainties might also be strategically used by certain stake-holder groups, who aim to impose their own interests. Resolving these un-certainties is particularly important, since uncertainties in this context usu-ally refer to multiple knowledge frames of successful water management and the goals to achieve it. However, resolving it means not to complete the knowledge base but first of all to agree on the knowledge base, i.e. di-minishing these uncertainties hence demands the negotiation between dif-ferent interests and perceptions rather than the elimination of knowledge gaps. To ensure that participatory processes will not end in 'lowest com-mon denominator decisions' (Coglianese 1999), a true commitment of both the authorities in charge and the stakeholders is hence a crucial ele-ment to support Social Learning.

Even though the analysis at hand investigated a broad range of fac-tors and conditions that have to be fulfilled to foster social learning as a means to lessen uncertainty, further aspects might be important to analyse. In their ambition to allow true involvement within the decision making process of the WFD, the area co-operations can be judged as a good exam-ple for successful active participation. The edict of the co-operations grants wide opportunities for the authorities to hand decision making competen-cies to the stakeholders. Yet, this also involves a dynamic component. Within the process, the authorities in charge and the participants can de-fine, whom to involve with which form of decision competence. How open or narrow the individual roles are interpreted, also greatly depend from leadership. Leadership is a further important aspect of Social Learning in practise, which was not considered in the study at hand. Here, further re-search is needed to understand the role of leadership for participatory processes within the implementation of the WFD.

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