

---

## Introducing theoretical insights of participatory methods into the practical work of water managers

Jörg Krywkow, Karina Speil

Department of Water Engineering and Management, University of Twente, PO Box 217, 7500 AE Enschede, The Netherlands, phone: +31 53 489 4038, email:

j.krywkow@ctw.utwente.nl

Seecon Deutschland GmbH, Westerbreite 7, 49084 Osnabrück, phone: +49 541 9778850, email:karina.speil@seecon.org

**Summary.** The purpose of this contribution is to outline the development of a generic procedure for participatory water management projects in the European TRUST project. The project supported the efforts of five water management projects in Netherlands, Belgium, and Great Britain, and was divided in three theme groups: 1) engineering, 2) environmental impact and 3) participatory processes. In all theme groups, water managers used the opportunity to exchange experience, and initiated a trans-national learning process. Water managers and planners involved in theme group III (participatory processes) collaborated with, Seecon, a German-based consultancy specialising in participatory water management. Because of this collaboration, scientifically-underpinned participatory methods could be introduced in the day-to-day work of the water managers. Despite the variety of case-study-specific approaches such as canal broadening, the construction of a water basin, expansion of a recreational area, construction of multi-functional ponds in a park and the enlargement of pumping capacity in a Dutch polder, Seecon staff were able to develop a generic framework for the design, implementation and evaluation of participatory processes in water management projects. Case-specific issues were addressed in the individual participatory plans developed by Seecon and the partners.

An evaluation procedure was developed to monitor the intensity of the participatory processes in the particular case studies throughout the entire project. Seecon interviewed water managers on a regular basis. 'Planning sheets' were developed as a log book enabling the managers to monitor the participatory process at any stage of their projects, as well as a method to estimate the intensity of participation.

Two important lessons have been learned within this project. First, the potential of participation is still not entirely recognised among water managers. Often participation is seen as a cumbersome but inevitable procedure prescribed by European or national legislation. Or it is merely seen as a risk analysis to avoid unwanted interruptions by third parties. Second, scientists and consultants must put more effort into developing convincing arguments about the positive effects of stakeholder as well as public participation. The project TRUST was a significant step forward in terms of better collaboration between practitioners, scientists and consultants in the field of participatory processes.

*Key words: participatory methods, participatory plan, process management, monitoring and evaluation*

## 1 Introduction

The TRUST Project is part of the EU INTERREG IIIB project. The EU TRUST Partnership brings together five innovative partners that use water in spatial planning: British Waterways (BW), Glasgow City Council (GCC), Provincie Noord-Holland (PNH), Hoogheemraadschap van Schieland en de Krimpenerwaard (HHSK) and Provinciale Ontwikkelingsmaatschappij West-Vlaanderen (POM). Each part-

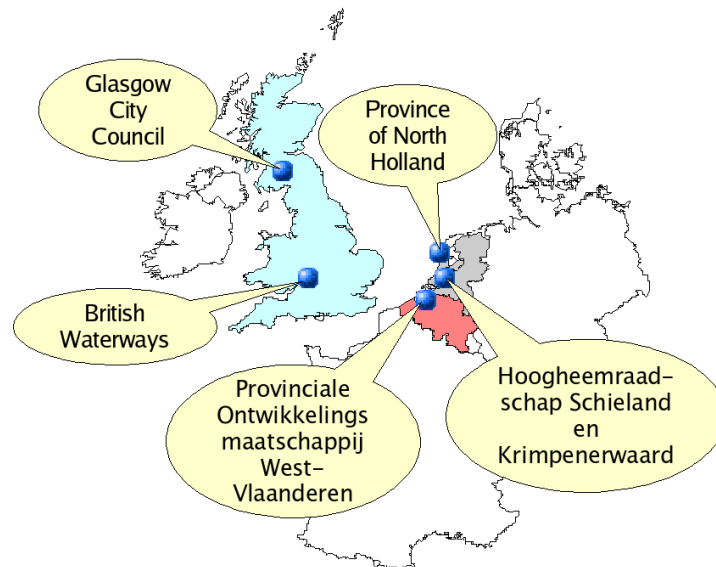


Fig. 1. TRUST Project partners and their projects within North-West-Europe

ner's project includes multi-functional use of water-space, innovative and improved water management and public participation. They aim at delivering strategic, practical and innovative solutions that add value to existing initiatives in water management and spatial planning across Europe. Within TRUST the Theme Group III (TGIII) focused on issues of public and stakeholder participation. Besides the five partners, the consulting Seecon was involved. Seecon's task was threefold:

- Support the participatory process of each of the projects by providing the link between science and practice;
- Adapt scientific participatory methods and provide guidance as how to choose the most appropriate methods for the local projects;
- Develop a framework of methods that is operational, flexible and comprehensible, and scientifically sound at the same time.

Employing professional consultants is omnipresent in economy, financial and resource management, spatial planning, engineering, and many other fields. Employing professional consultants in the field of participation in water management, however,

is relatively new. When it comes to belabouring the issue of public and stakeholder participation, most of the European water management projects successfully rely on university scientists and researchers. But despite all the new insights in adaptive water management, Integrated Water Resources Management (IWRM) and spatial planning, the everyday problems of both stakeholders and water managers require operational solutions. This is especially crucial when the European Water Framework Directive (WFD) (EU, 2000) will be implemented into the legislation of every single EU country. A process, during which participatory planners will face two additional challenges: the increasing democratisation process in Europe and a general tendency toward a more individualised post-industrial society. However, the TRUST approach has the potential to fill that gap between theory and practice.

## 2 Project organisation and case studies

The TRUST project with the five partners and the consultancy was organised in three theme groups (TG): TG(I) - engineering, TG(II) - environmental impact assessment, and TG(III) - participatory process. Whereas the collaboration of TG(I) and (II) was based upon well-known issues and expertise, TG(III) water managers were confronted with new approaches of interacting with the public and stakeholders. Moreover, after a short period of time TG(I) and (II) integrated their effort increasingly, and worked closely together. In contrary, TG(III) remained relatively isolated. The five case studies represented various planning project with different issues and solutions.

### 2.1 British Waterways (BW): Stroud canal restoration

The project is based in the South-West of England, close to the centre of Stroud, on the edge of the Cotswolds. British Waterways is the lead partner on behalf of the Cotswolds Canals Partnership, and is responsible for delivering the restoration through design and consultation with local stakeholders and the public. The project involved:

1. Restoration and mitigation works to a former ornamental pond carrying a stream which runs into the canal. The Ruscombe Brook is prone to pollution from upstream flooding, which consequently runs into the canal;
2. Excavation of 650 metres of canal incorporating new emergent habitats, construction of a 1.6 metre wide towpath with vegetated verges, tree management and the creation of reptile hibernacula<sup>1</sup>;
3. Interpretation of the canal.

The development of the designs for the restoration of the bridge at Oil Mills, has been guided by conservation and wide public consultation. Environment, heritage, landscape and access appraisals have been carried out. Options for the design were

---

<sup>1</sup> location chosen by an animal for hibernation

considered by a heritage consultation group, consisting of Gloucestershire County Council, Stroud District Council, Cotswold Canal Trust, Company of Proprietors of the Stroudwater Navigation, English Heritage, Gloucestershire Society for Industrial Archaeology, and British Waterways. The local community and various interest groups, such as Stroud Access Forum, were also consulted and their comments and recommendations were built into or taken into consideration within the application. Environmental considerations were identified through consultation with conservation groups, such as Gloucestershire Wildlife Trust, the Environment Agency and English Nature. Existing habitats and species will be protected and enhanced. The work around The Lawns has aimed to manage any polluted water running into the canal. The stream runs through a pond on the site, which is badly overgrown and silted up. The work involves managing the trees around the edge of the pond to increase the amount of light getting to the water. The pond will also be re-profiled to increase the depth of the water, and hazel faggots will be installed as bank protection. This will all encourage increased reed growth around the pond which will act as a filter, managing pollutants that come down the stream.

## **2.2 Glasgow City Council (GCC): the regeneration of Ruchill Park**

The Ruchill Keppoch Local Development Strategy (LDS) was approved by the Council in January 2005. The LDS provides the policy guidance and development context for the Glasgow TRUST Project. The TRUST Project has created a valuable opportunity to direct funds to the regeneration of a large local park, enabling green space regeneration to become part of a much bigger programme including new housing, new schools and a new commercial centre.

Glasgow's water storage planning activity is based on a series of attenuation ponds situated in a park, on a hillside above and overlooking a stretch of canal. The objectives of the project's design are:

1. Remove surface water run-off from existing combined sewers;
2. Reduce risks of flooding and pollution of adjacent watercourses;
3. Enhance the quality of the environment and biodiversity;
4. Improve water quality prior to final discharge.

The Ruchill district of the city is largely residential, and the final phase of the regeneration of previous industrial and redundant hospital sites should commence later in the year 2007. The area features two hills, and it is on one of these hills that the TRUST Project is situated. The hill occupies some 60 hectares of which 30 hectares is a redundant hospital site, lying on the Eastern 'half' of the hill. This site was sold to a private house builder in the summer 2007. The other 30 hectares will form a local park.

The TRUST Project features three ponds with the highest pond to the east. Each pond feeds the adjacent lower pond and eventually discharges through a pipe via a local street to the canal. The three ponds flow by gravity; they are planted with aquatic and marginal plantings. They will permanently contain water. The ponds can be accessed by a footpath network linked to the park footpath network.

### 2.3 POM West-Vlaanderen: constructing a new fresh water basin

In the region of Roeselare-Tielt many farmers deliver their products to producers of frozen vegetables. During last few years the region suffered both increasing rainfall intensities with subsequent floodings, as well as extended periods of drought. POM assumes that these phenomena are results of climate change impact, and belief that these extreme situations are likely to occur more often in the future. During the dry summer season farmers need water to irrigate their vegetables. Drought periods significantly decrease the irrigation capacity of the region. The available water resources, however, do not provide enough supply. In addition, the surface water quality deteriorates remarkably.

Currently, the producers of frozen vegetables prevalingly use deep groundwater as process water. Since both the amount and the quality of the deep groundwater layers are decreasing rapidly, there will be limitations enforced on this water source. In order to guarantee the continuation of the farmer production and industrial water supply in the area, other alternative water sources must be found. The Province of West Flanders concluded that a possible solution to this problem can be found in the storage of superfluous water in times of high precipitation. During the dry season, this water can be used as irrigation water for the farmers, and can possibly be used as an alternative process water supply for the industry. The water storage basin will provide water for irrigation of crops. The possibility of supplying water to the industry will be examined. The basin will be able to store superfluous water and will improve biodiversity by its ecological embedding.

### 2.4 Water Board of Schieland and the Krimpenerwaard (HHSK): a new water way

The Polder<sup>2</sup> Bleiswijk is a rural area (beneath sea level) that is part of the administrative district of HHSK. A spatial transition due to increased urbanisation and the development of specialised agriculture (glass houses), however, is ongoing.

The area's current water management requires a strict system of drainage and water level control with weirs and pumping stations, to pump the surface water to the polder outlet. In the current situation the Polder Bleiswijk severely suffers from excess water during times of intensive rainfall, and there is a lack of fresh water in times of drought. Due to a further change in climate in the years and decades to come, it is expected that more problems will occur. Eventually, this will lead to serious economic loss (e.g. loss of crops, damage to infrastructure and houses). To reduce this risk of economic loss, the water related transformation of the polder Bleiswijk was started.

The programme of measures (until 2006 called *Peil 2010*, since 2007 called *Wateropgave 2015*) entails the enlargement of surface water in the Southern part of the polder Bleiswijk, and includes interlinking a aquatic nature and a recreational area with the water system. The project includes:

<sup>2</sup> A polder is a low-lying tract of land that forms an artificial hydrological entity, enclosed by embankments known as dikes

- the redirection of urban water discharge away from the natural environment;
- the improvement of the availability of water during periods of drought;
- the improvement of ecological balance in the area.

The TRUST demonstration project includes the realisation of a new, landscape-integrated, main waterway (earthworks and landscaping), ecological banks, two canoe-passable culverts, a pedestrian and cycle bridge, and two road bridges. The excess soil from the waterway is used to create new ecological banks, and to reinforce dykes nearby. The new main waterway ends near a new pumping station, called Lansingerland.

Because of this project, the improved drainage of the area will undoubtedly reduce the risk of flooding of the polder. In addition, visitors from beyond the near vicinity of the site benefit from the higher ecological quality of the area and the improved recreational facilities. Last but not least, the improved recreational facilities are expected to increase the revenues of the recreational entrepreneurs in the area, while improved access to the area will most likely attract more visitors to the two existing restaurants.

## **2.5 The Province of North-Holland (PNH): improving and extending a recreation area**

The recreational area Geestmerambacht is surrounded by agricultural land. The area has a lake, called *Zomerdel*. The lake is a result of sand exploitation for the construction of roads and new houses in the city of Alkmaar. The current state of the recreational area is a result of building starting in the late 1960s. It was developed as part of the structural improvement for the agricultural modification of Great Geestmerambacht.

Due to suburbanisation processes and population growth a larger area for recreation is required. For this reason the three municipalities of Heerhugowaard, Alkmaar and Langedijk decided to enlarge the area Geestmerambacht. The new part of the recreation area *The Druppels* is at the same time part of the TRUST project. Besides its recreational function *The Druppels* will be developed as a peak retention polder to compensate for the fact that the lake *Zomerdel* is cut off from the drainage canal.

The lake *Zomerdel* will remain the centre of the recreational activities. The redevelopment of the lake shores in 2006 included water sports and daytime recreation. The lake itself can be used for swimming, canoeing, wind surfing and diving. There are several fishing areas, and routes for walking, cycling and horseback riding. Camp grounds, a number of small hotels, cafés and restaurants are associated to the area.

Besides developing recreational facilities the water quality of the lake *Zomerdel* had to be improved. To reduce the risk of blue algae dispersal, the lake got detached from the North Holland Canal. As a result, the water supply has stopped, and the surface level lowered about one metre. The lower water level made it necessary to rebuild the banks of the lake. The restructuring of the area was combined with the wishes of the visitors. The works took place in 2006 and were finished in April 2007.

When the lake *Zomerdel* was detached from the canal, the storage capacity of the *Schermer* drainage canal diminished. To compensate for this loss in capacity, the recreational area of Geestmerambacht was expanded by approximately 375.000  $m^3$ . A new dike had to be constructed around the entire area of the Druppels. The chance that the Druppels will flood is now once in a 100 years. The urban surface waters of Alkmaar North will be connected the new recreational area. The connection is also important to increase the water storage capacity of the urban area of Alkmaar. The water measures ensure that the water system of the entire area (500 *ha*) will be more flexible and self-containing. Thanks to the extra water area and the greater fluctuation of gauge, the area is capable of handling more and intense rainfall. Because of this, the polder pump will be used less.

### 3 Methodology

In TG III of the TRUST Project, an attempt was made to implement more scientifically underpinned methods into the every day practice of the involved water managers. Seecon developed a framework for participatory methods that applies to all phases of a participatory process. This framework is documented in the Inception Report of the TRUST TGIII project (Hare and Krywkow, 2005). Its scientific basis stems from the field of Integrated Assessment (IA). IA is both a framework and a guideline for dealing with complex social-environmental systems. These systems are characterised as non-linear, uncertain, and case-specific. Some examples from the literature are: Pahl-Wostl and Hare (2004); Pahl-Wostl (2002); Parker et al. (2002); Rotmans (1998); Toth and Hizsnyik (1998). Within the TRUST Project, the task of TG III was to focus on the participatory methods in the respective projects. Many of these participatory methods were developed as social-science methods that have been applied in specific (often single-problem) research situations. Participation as practised in the TRUST project, however, requires a combination of these participatory methods. In many cases this is a challenge, since planning situations are prevalingly confronted with complex problems and side effects. Additionally, water managers are confronted with a variety of stakeholder perspectives and interests. Many water authorities have their mostly legally prescribed set of participatory methods, based upon resources and experiences within the organisation. Yet, the WFD requires a new approach to public and stakeholder participation, with emphasis on an early involvement of stakeholders, and on more transparency in the policy process.

#### 3.1 Inception Report: capacity building

The Inception Report (Hare and Krywkow, 2005) was the first report of the TRUST TG III Project. The document has a number of functions:

- Present a consistent and well-structured framework that can serve as a guideline for participatory management;
- Provide a short description of available participatory methods;

- Provide an approximation of possible cost and effort of participatory methods, and with that, an assessment of the applicability for the water managers;
- Give an overview of planned activities throughout the course of TRUST, including a description of work;
- List the requirements and main tasks of the TG III partners.

The methodological basis that is provided in the Inception Report can be designated as a guideline for participatory management: an attempt to provide managers with a complete framework of methods that covers all process phases from the planning draft to the policy implementation phase. The main topics of the framework are: (1) participatory management and stakeholder analysis, (2) selection of participatory methods and (3) estimation of costs and effort, and thus an assessment of the feasibility of methods. The Inception Report may also be seen as a linkage between the available scientific methods and the requirements of water managers in their day-to-day business. The report should, furthermore, encourage water managers and decision makers to not only rely on established procedures within their own organisations, but be more daring when it comes to participation as well. This guideline to participatory management is a novel approach in the field of applied scientific methods.

### 3.2 Participatory plans

Once the Inception Report was designed and reviewed together with Seecon, all partners had a basis for developing a participatory plan. This plan is a recommendation for the choice of participatory methods in the specific requirements of each of the projects:

- A participatory plan was developed for POM, BW and GCC;
- HHSK requested a generic participatory plan that reflects the lessons learned throughout previous projects, and that may be a guideline for future projects. It is documented in the final report of the TRUST TGIII project (Krywkow et al., 2007);
- PNH asked for a review of their communication plan that co-ordinates the activities of the involved project organisations instead of a participatory plan;
- The participatory plan for BW is focussing on on-site activities such as involvement of school students and on-site information campaigns, guided walks and similar. The purpose of these activities is to increase the acceptance of the project, stopping vandalism, ensuring future maintenance of the site and avoiding conflicts between the users of the canal site and adjacent residents;
- The participatory plan for POM includes a number of issues such as improving the stakeholder analysis, talk to the person who objected against the plan, intensify the collaboration with NGOs, have measures for capacity building within POM, and intensify the communication with the local farmers;
- The main advice in the participatory plan for GCC was to identify commonalities and differences in goals of the involved individuals and organisations that are responsible for planning and implementing the project. The significance of the participatory process did not seem to be completely realised by planners and



engineers of the Ruchill Park project. Furthermore, a well structured meeting of all stakeholders and authorities was recommended in order to achieve a structured overview of the most relevant problems, and to have a clear strategy for the development and the maintenance of the site;

- PNH received a review of their own communication plan with a check list for a generic communication plan. Main issues of the review were the consistency of the communication plan with other documents, a clear structure of the plan and the involvement of parties outside the planning consortium. With the requirement to review their own communication plan PNH raised the issue of communication as part and prerequisite of an overall participatory process. Internal and external communication that is not clearly structured and efficient can decrease the quality of the participatory process;
- HHSK preferred not to have a participatory plan, because the representatives indicated that the participatory process of their project was already too advanced to have significant impact with a participatory plan. Instead a 'generic participatory plan' was required including lessons learned from the TRUST process and previous experience with other projects of HHSK. The generic participatory plan builds on insights that are described in the Inception Report, and points out requirements that are more specific for water managing organisations such as the water board HHSK. It is published in the appendix of the TRUST TG III final report (Krywkwow et al., 2007).

### 3.3 Methods for the evaluation of participatory processes

According to the CIS Guidance document on participation in relation to the Water Framework Directive (European Commission, 2003, p.46), "reporting brings transparency into the public participation process, and gives feedback to the participants on what has happened with their comments." This is an important reason as to why participatory processes should be monitored and evaluated. But there are more reasons. Monitoring and evaluating a participatory process enables water managers to carry out a participatory process, to recognise problems early, and guide the process safely to success. It helps to plan further steps of the current participatory process, and to improve conditions for future processes by learning from the experience.

One of the basic ideas behind monitoring and evaluating the TRUST project was to not only evaluate at the end of the participatory process, but also in between. Another evaluation objective that was partly implemented in the TRUST Project was that diverse perspectives (planners as well as stakeholders and external experts) should be included. Primarily, partners were asked to give their judgement about whether or not a goal has been achieved in their participatory processes. This was complemented by Seecon's observations and, whenever possible, by feedback collected from stakeholders. This needs to be accomplished in a structured way. However, it does not necessarily require much resources. Planners only need to contact the stakeholders, and ask them predefined questions related to their perception of the quality of their involvement.

### Representing process characteristics in a simple and comparable way: intensity diagrams

A number of articles refer to the benefits of participation such as (Oels, 2003; ÖGUT, 2003; Renn et al., 1995). 'More' or 'less' participation is often characterised along the three levels of participation: *information, consultation, active involvement* or any other one-dimensional structure such as Arnstein's ladder of citizen participation (Arnstein, 1969). Seecon developed a concept for describing the *intensity* of a participatory process in a simple way along six dimensions (figure 2). The dimensions are based on a broad range of criteria found in the literature (Feindt, 2001; Renn et al., 1995; Chanan, 1999; ÖGUT, 2003; Oels, 2003; Beierle and Cayford, 2002). This broad range was reduced to a minimum set of six criteria: *activity, equality, transparency, power sharing, flexibility* and *reach*. A short defining question for each is given in the figure 2. The intensity of a participatory process is a combination of the levels of these 6 criteria.

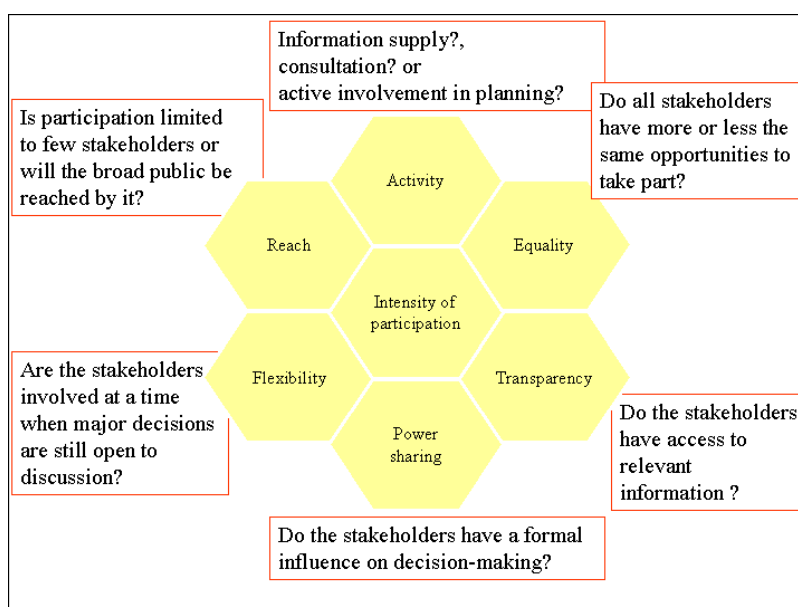
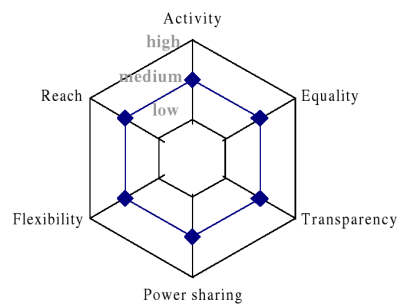


Fig. 2. The six dimensions of the intensity of participation

The six dimensions can be visualised graphically in a so-called intensity diagram in form of a spider-gram (figure 3). Throughout the TRUST TGIII process these diagrams have proven to be useful, whenever a quick overview of the intensity of a participatory process was required. In this case, the spider-grams serve as a tool for describing the participatory process (or its intensity). However, they are not an evaluation tool in itself. In other words, the intensity of the participatory process says

nothing about its quality or appropriateness. A look at the objectives of the process is required. A specific intensity may be needed in order to achieve certain objectives:

- Public awareness requires a high reach of the process;
- Building trust requires a high level of transparency;
- Social learning requires high activity and high transparency, etc.



**Fig. 3.** A generic example of an intensity spidergram

### Planning sheets

In order to represent the current state of a participatory process, Seecon developed planning sheets that had to be filled out by every TRUST Partner. In a table structure the planning sheet (figure 4) gives an overview of the entire participatory process, the applied methods, and the involved stakeholders. This way it serves as a tool for planning, communicating, and reviewing a participatory process. Figure 4 shows the planning sheet. The main categories are highlighted by coloured tags. The planning sheet contains non-participatory as well as participatory activities and evaluation points. For each activity, the involved stakeholders are indicated, as well as outputs of the activity in terms of documents and (estimated) costs. A second table sheet allows for providing details about specific activities. Evaluation of the participatory processes in TG III was carried out in three stages. Their time frames, methods and outputs are summarised in table 1. Seecon supported the partners with all tasks related to the evaluation of their participatory processes. Seecon visited partners to carry out evaluation interviews, and based upon the interviews compiled interim evaluation reports. Furthermore, Seecon provided tables and questionnaires to support partners with collecting the relevant data for process monitoring and evaluation, and in order to minimise the partners' workload.

**Planning sheet** adapted from Craps & Maurel (eds.) 2003  
for TRUST project partners, delivered by Seecon Investment project Table filled in by: Last update:

Category	Sub-category	Name	Phase ->														
			Date ->	Jan/Feb	March	April	May	June	July	August	September	October	November	December	Jan/A	May/Au	Septo Dec
Non PP events	Construction works																
	other	<b>Non PP events</b>															
Classes of participatory methods	Public information provision																
	Discussions																
	Surveys																
	Public meetings	<b>participatory method</b>															
	Education																
	Events																
	Popular involvement campaigns																
	Workshops																
	other																
	Eval:	Evaluation points	<b>evaluation points</b>														
Stakeholders																	
		<b>involved stakeholders</b>															
Outputs	protocols																
	plans	<b>outputs</b>															
	decisions																
	other outputs																
Costs	Estimated costs (Euros)	<b>costs</b>															

Fig. 4. The planning sheet

#### 4 Summarised results of the evaluation

At the inception evaluation, only one partner was considering an intense participatory process. When the interim evaluation was carried out in 2006, some partners struggled with diverse difficulties concerning goal achievement. Seecon gave some recommendations on how to handle these situations.

At the end of the TRUST Project, all partners were convinced that they have reached a relative high intensity of their participatory process, that all relevant stakeholders have been informed and that the views of the stakeholders were included in the process. Furthermore, from the partners' perspectives, they succeeded in achieving most of the very ambitious objectives (development of win-win plans, public awareness, long term use and maintenance, etc.). However, only one partner considers the objective of 'social learning' to be achieved in his project. It would have been better to evaluate these assessments with stakeholder feedback on the participatory processes. However, this was not possible for all partners within the TRUST project. The main reasons are lack of time, the limited resources that are available for participation, and the accompanying monitoring and evaluation tasks within the single projects. From Seecon's point of view, some opportunities have been given away, when the possibilities of participation were concerned:

**Table 1.** Evaluation points within the TGIII process

Year	Name of evaluation point	Methods	Outputs
2005	Inception evaluation	Short interview with partners on planned process intensity and questionnaire on process and constrains	Intensity diagrams (spidergrams) and recommendations for participatory plans
2006	Interim evaluation	Evaluation interview with each partner and observation of participatory activities of some partners. Documentation planning sheet	Interim evaluation report with partner feedback on current goal achievement and lessons learned. Seecon gives recommendations for the next phases of the process
2007	Final evaluation	A questionnaire was sent to each partner including stakeholder feedback. Documentation: planning sheet update	Process (intensity) and output (goal achievement); lessons learned for future processes

- The chances for active involvement (in planning, implementation and maintenance) and social learning (generating understanding and long-term changes in behaviour);
- More effective co-operation within and between organisations (through acknowledgement of the importance of participation and clearly defined responsibilities between partner organisations);
- Gathering stakeholder feedback on the process quality and outcomes (through short informal talks or questionnaires).

However, when compared to current planning procedures, the partners have moved towards more intense participation. Under the difficult conditions of having only little resources available for participation, and having to deal with a general lack of acknowledgement of the importance of participation, the partners did very well in involving the stakeholders into their projects. The networks that were built with stakeholders, the experiences gained, and the learning effects of exchanging these with Seecon and the other partners, will only contribute to the participation approaches in the future. Detailed results of the evaluation procedure are documented in the final report of the TRUST TGIII project (Krywkow et al., 2007).

## 5 Results and conclusions

Whereas many European water management projects focus on a limited number of methods employing case studies as kind of a 'test field', TRUST worked with five different real-world projects which require various methods to achieve their planning goals. In this project, the main challenge was to adapt innovative methods in such a

way that water managers, engineers, and planners were able to acquire new insights; for ongoing as well as for future projects. Also, the consultants would have to learn more about the requirements of water managers, so that the theoretical methods could be made more accessible and applicable.

TGIII provided the partners with a platform that enabled them to exchange their experiences with regards to the preparation, implementation and analysis of participatory processes, and commonly discuss emerging challenges. Seecon moderated the transnational exchange meetings and supported each partner with theoretical insights, participatory plans, evaluation procedures, and further guidance. The outcomes of the TGIII effort reveal a number of insights and experiences that prove the benefit of participation. Equally, if specific stakeholder interests are not identified early enough, or are not taken seriously, delays can happen during later stages of the project (e.g. the legal planning procedure). The neighbour in POM's water basin project, who delayed the planning process for several months, is one example. However, applying or rejecting participation in a planning procedure is not a decision of one or more involved planners, but depends on the legal context, the institutional assumptions, intra-institutional communication, the priority of participation within the institution, the training and experience of water managers, and the complexity of the planning situation as well. As in many other water management projects, one important lesson was learned once again: the relevance of participation is often underestimated, with, as a consequence, inappropriate resource allocation and surprises due to an unexpected course of events.

*Communication* is an important precondition for participatory processes. The notions of communication and participation are often confused. A good communication between water managers and stakeholders or the public does not implicitly entail a good participatory process. However, participation has more categories or levels such as consultation, active involvement, social learning and eventually decision making, as described and discussed in the inception report. It is important to distinguish between internal communication (water managers with other departments within their organisation or consortium) and external communication (water managers with stakeholders and the public). Especially in a planning consortium, a communication plan is essential for the co-ordination of tasks and an efficient working process. Seecon designed a communication plan for PNH and a check list of communication plans for water managers. For the public and stakeholders it is important to be informed about plans as early as possible. Often, the legally prescribed means of information such as local weekly newspapers or information bulletins in municipality offices are considered sufficient. However, in view of contemporary information overload from other sources and an abundant media supply, more has to be done, and modern media such as web sites should be included. Such media can also support project internal communication.

The multitude of knowledge among experts and lay people should be pre-processed and easy to access for water managers. For future projects it can be helpful to have an on-line forum that enables water managers, together with a participatory consultant, to easily exchange experiences, and instantly ask questions and receive a reply. This can supplement the exchange that takes place during meetings. Another

side effect is the development of a project memory. This can be helpful to retrieve information from earlier stages of the project or look up information that has been forgotten after a longer period of time. Moreover, a central communication platform can avoid data redundancy and data loss. One example of a project exchange platform is the internal web site of the NeWater project.

Besides technical means of communication, face to face contact can often be more valuable than any electronic media. For example, a simple face to face conversation of POM representatives with the neighbour in Ardoioe might have solved the problem of process delay without a legal procedure.

In principle, there were two kinds of involvement schemes in within the TRUST Project:

1. *Co-planning* and *co-decision*: meaning stakeholders are involved in the design of the project, particular decisions for implementation and procedural issues of the participatory process (as observed at BW);
2. The *expert planning* way, which involves a draft plan with calculated measures, designed by experts, that permit modifications by the incorporation of stakeholder perspectives to some extent (such as in the other four projects).

At first, the 'co-planning way' appears to be more transparent and democratic, with more opportunities for the stakeholders to affect the project. However, as the BW case proved, a planning process can be given out of hand, which may delay of the entire procedure. This is just as undesirable as an obtruded planning procedure with little option for modification, based upon stakeholder perspectives. A clear definition of tasks and deadlines plays a crucial role in efficiently coordinating activities of diverse partners and stakeholder organisations.

One main difference between the participation approaches of the TRUST Partners is the degree to which groups of the public were involved in activities, either with an educational character (involving school children, BW), with a fun-character (e.g. fun run, GCC), or by allowing groups to take part in the design and implementation of specific elements of the project site (place making event or design of a flag etc., GCC). Another difference between the projects is the *involvement of volunteers*. According to BW managers this has a long tradition in Great Britain. It helps achieving a cost-efficient implementation of measures, as well as an increased acceptance and sense of ownership of the project at the same time. Acceptance and sense of ownership, however, are crucial for the maintenance and sustainability of the implemented measures. On the other hand, the involvement of volunteers is not as easy in all countries of the EU. HHSK managers reported that the involvement of volunteers may conflict with legal regulations, resulting in cumbersome and bureaucratic application processes. Moreover, insurance issues of volunteers working in governmental projects are complicated, and this way additionally hamper an involvement of volunteers. However, thanks to the international exchange within the TRUST project, these issues will be discussed in the future among water managers of Dutch water boards.

Another problem is the *level of education* and interest of the stakeholders. Whereas water managers can assume a general comprehension and interest among

stakeholders, it might be difficult to reach the public in some neighbourhoods and raise their interest. GCC representatives and collaborating stakeholder groups for example, experienced that some individuals were simply not able to read flyers, questionnaires or maps. Only face-to-face contact and the active involvement of neighbourhood groups can mitigate that problem.

The TRUST Project was partitioned in three theme groups: engineering (TG I), environmental impact assessment (TG II) and participatory management (TG III). After a few months TG I and II decided to integrate their effort on the project level. The integration of participatory management on the project level was missing. Only within the projects an exchange was possible, but not always fully accomplished. In other words, the projects had an environmental impact assessment based upon the close collaboration between engineering and environmental issues, but not a comparable 'social impact assessment'. This means the full integration of engineering and environmental issues with participatory management has not been done. At the same time the allocation of financial resources was not as sharply segregated between the Theme Groups. In some cases this resulted in participatory methods that could not be applied because of a shortage of staff or money.

As mentioned above, the management of participatory processes is more sophisticated than commonly assumed. Planning processes are often accompanied by a whole variety of issues, problems and side effects. Moreover, stakeholders as well as the public, introduce a variety of perspectives on these issues. One can imagine that this may dramatically increase the uncertainty, and at the same time build up a 'problem space' that is complex and difficult to solve. The project of PNH is an illustrative example of this complexity: the main issue is the improvement of the recreational value of the site. Side effects are: nature conservation, accessibility of the site, landscape value, water quality, littering and ground water level. PNH stakeholders have specific, and occasionally contradicting, preferences such as: sport and recreational activities (e.g. swimming, sailing, hiking, horse riding and cycling), maintenance of the quality of housing adjacent to the site (most water engineering activities have impact on the groundwater level and thus an impact on the base of houses), enjoying nature, and many more. Atop of this the municipality decided to allocate a soil dump on, or in the vicinity of, the site. It is easy to imagine that conflicts are inevitable. These conflicts can extend to longer decision procedures, and even legal procedures. As a matter of fact, not every party will be entirely satisfied with the outcomes of the project. However, it is important to reveal the consequences of possible planning solutions on the environment as well as the stakeholders. This can result in a social learning process, and ideally in a higher acceptance of the aspired modification. It is crucial that experts equally participate in the learning process. Local knowledge can help to prevent planning design errors and, again, increase the acceptance of a project. The example of PNH illustrates furthermore, that only a well managed participatory process can successfully approach a solution of such a complexity of problems.

For upcoming projects it is advisable to employ *specialised consultants* such as Seecon. Several TRUST Partners confirmed this conclusion in their contributions to the final report. An external consulting agency can help organise an integrative



project approach, where participation does not stand to the side of other planning efforts such as engineering and environmental impact analysis, but is fully integrated. This way, already existing engineering and environmental models might be used in discussions with stakeholders and support social learning processes. Furthermore, the potential of participatory management can be better exploited, and sophisticated participatory methods may be used at appropriate moments within the entire process. Besides the local knowledge and often biased opinions, a third and independent party can help to introduce more objective perspectives and transparency to the problems at stake. The increasing environmental awareness and self-confidence of stakeholders may be used as constructive contributions, rather than obstacles to overcome. An early and active involvement of a consultant is crucial for an appropriate design and a suitable allocation of resources for the entire participatory process, as well as for the integration with engineering and environmental departments within the project. The GCC meeting with stakeholders and Seecon in Glasgow at the 1st and 2nd of February 2006 is a good example of how effective a direct and active involvement of consultants in a participatory processes can be.

Last but not least the collaboration with an external consulting agency supports the *capacity building* among water managers themselves, so that future projects can be performed self-sufficient and with a similar quality as with a consulting agency. A close collaboration between water managers and consultants has a higher learning effect than workshops or similar theoretical course work. In the long run, rethinking of what water managers are required to master is indispensable. Water management still needs competent and highly specialised engineers, planners and environmental analysts. However, project managers with a broad understanding of interdisciplinary work and integrated approaches are necessary to achieve functioning, accepted, and sustainable results. Well designed engineering has a decreased value, if it is not accepted by the public and stakeholders. In general, a positive and flexible approach is required for successful participatory management. A plain risk management approach with a main goal of avoiding objections and process delays as described in the HHSK project, might not be sufficient. Later on, HHSK changed their strategy and contacted stakeholders to learn more about their specific requirements and perspectives. With this approach, the chance of collecting more (and sometimes even better) ideas, an acceptance of the implemented measures and a sustainable development of the site is high.

Often bureaucratic procedures and lack of resources hinder the exploitation of local knowledge, and the development of trust and partnership. More effort is required to promote the virtue of participatory management. Furthermore, scientists and especially consulting agencies such as Seecon, have to improve the applicability of scientifically-based participatory methods in the day-to-day work of water managers. Without an over-simplification that is, because complex problems cannot be solved with simple methods. However, sophisticated methods and procedures, if required, must be easier to understand, and better accessible for water managers in order to achieve an effective and well-structured participatory process with an appropriate application of methods.

Due to the experience of various local projects within TRUST, the new methodological framework (capacity building - participatory plans - evaluation) proved its potential to be applied in other water management projects, and significantly improve their participatory processes, if resources are allocated sufficiently, and the participatory process is appropriately embedded in the overall planning effort.

## 6 Acknowledgement

This study was possible through the Interreg IIIb *TRUST* project of the European Union. Very special thanks to Matt Hare. We would like to thank all participants of TGIII.

## References

- Arnstein, S. R. (1969, July). A ladder of citizen participation. *Journal of the American Institute of Planners (JAIP)* 35(4), 216–224.
- Beierle, T. C. and J. Cayford (2002). *Democracy in practice: public participation in environmental decisions*. Resources for the Future. Washington: RFF Press.
- Chanan, G. (1999). *Local community involvement: A Handbook for Good Practice*. Luxemburg: European Foundation for the Improvement of Living and Working Conditions. Office for Official Publications of the European Communities.
- EU (2000, December). Directive 2000/60/ec of the european parliament and of the council. *Official Journal of the European Communities OJ L* 327, 72. WFD.
- European Commission (2003). *Public Participation in Relation to the Water Framework Directive*. Common implementation strategy for the Water Framework Directive 2000/60/EC. Guidance document No. 8. Luxembourg: Office for Official Publications of the European Communities, Working Group 2.9 - Public Participation.
- Feindt, P. H. (2001). *Regierung durch Diskussion?: Diskurs- und Verhandlungsverfahren im Kontext von Demokratietheorie und Steuerungsdiskussion*. Ph. D. thesis, Universitt der Bundeswehr Hamburg, Lang, Frankfurt/Main.
- Hare, M. P. and J. Krywkow (2005). Participatory processes for the design of water storage areas. Technical report, Seecon Deutschland GmbH, Osnabrück. Seecon TR no. 01/2005 for the TRUST project.
- Krywkow, J., K. Rasche, E. Moss, T. Mitchell, K. Vancleemput, R. van der Kroef, R. Hotting, A. Rodenbach, and C. Noordanus (2007, October). Public and stakeholder participation. Theme Group III Final Report of the TRUST Project, Rotterdam.
- Oels, A. (2003). *Evaluating stakeholder participation in the transition to sustainable development. Methodology, case studies, policy implications*. Ph. D. thesis, University of East Anglia, Norwich, LIT, Mnster.

- ÖGUT (2003). *Checklisten für Rahmenbedingungen und Qualitätskriterien partizipativer Verfahren im öffentlichen Bereich*. ([www.partizipation.at](http://www.partizipation.at)): Österreichische Gesellschaft für Umwelt und Technik (ÖGUT), Wien. Arbeitsblätter zur Partizipation, Nr. 1.
- Pahl-Wostl, C. (2002). Participative and stakeholder-based policy design, evaluation and modeling process. *Integrated Assessment* 3(1), 3 – 14.
- Pahl-Wostl, C. and M. P. Hare (2004). Processes of social learning in integrated resources management. *Journal of Community and Applied Social Psychology* 14, 193 – 206.
- Parker, P., R. Letcher, A. Jakeman, M. B. Beck, G. Harris, R. M. Argent, M. P. Hare, C. Pahl-Wostl, A. Voinov, and M. Janssen (2002). Progress in integrated assessment and modelling. *Environmental Modelling and Software* 17(3), 209 – 217.
- Renn, O., T. Webler, and P. Wiedemann (Eds.) (1995). *Fairness and competence in citizen participation: Evaluating models for environmental discourse*. Dordrecht, Netherlands: Kluwer Academic Publishers.
- Rotmans, J. (1998). Methods for ia: The challenges and opportunities ahead. *Environmental Modelling and Assessment* 3, 155 – 179.
- Toth, F. and E. Hizsnyik (1998). Integrated environmental assessment methods: Evolution and Applications. *Environmental Modelling and Assessment* 3, 193 – 207.