

# Public participation in a planning process at a Dutch water board

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## 1. Introduction

The Dutch water boards are currently facing the challenge to implement a range of issues in their regional water management. Water boards are regional water agencies, responsible for the quantity and quality of surface water in the Netherlands. The national Dutch water policy directive (“Nationaal Bestuursakkoord Water”) stipulates that water boards have to be able to anticipate to water shortages and floods resulting from climate change and need to have their water quantity issues in order by 2015; integrating different functions and interests in water management resulting from this national water policy directive; and creating a qualitative ecological water system resulting from the European Water Framework Directive (WFD) are some of the main goals (HDSR 2003). Water boards are implementing these goals in rural water area plans (WAPs) and urban water plans (WP).

Between early 2006 and late 2007, Hoogheemraadschap De Stichtse Rijnlanden (HDSR), a water board in the centre of the Netherlands, has involved different groups of stakeholders in the planning of a water area plan for one of their sub-regions, the Kromme Rijn area. Individual citizens, agricultural organizations, companies, governmental agencies and other user groups have participated in different ways in the development of this water area plan. In this paper we will describe the way in which participatory planning was organized in this project and present the main results of the evaluation research that was carried out for one of the target groups, i.e. the citizens of the area. In the course of this paper we will discuss the effectiveness of these citizens’ evenings in planning processes for water man-

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agement and draw a number of lessons for policy makers at regional water agencies with regard to effective participation in planning processes.

In the next section, the Kromme Rijn case study is introduced, including a description of its context and processes. The methodology and results of the evaluation study carried out for the citizen's meetings is presented the third section. In the fourth section the main results are discussed with an eye on practical lessons for policy makers. Finally, in section five the conclusions are drawn.

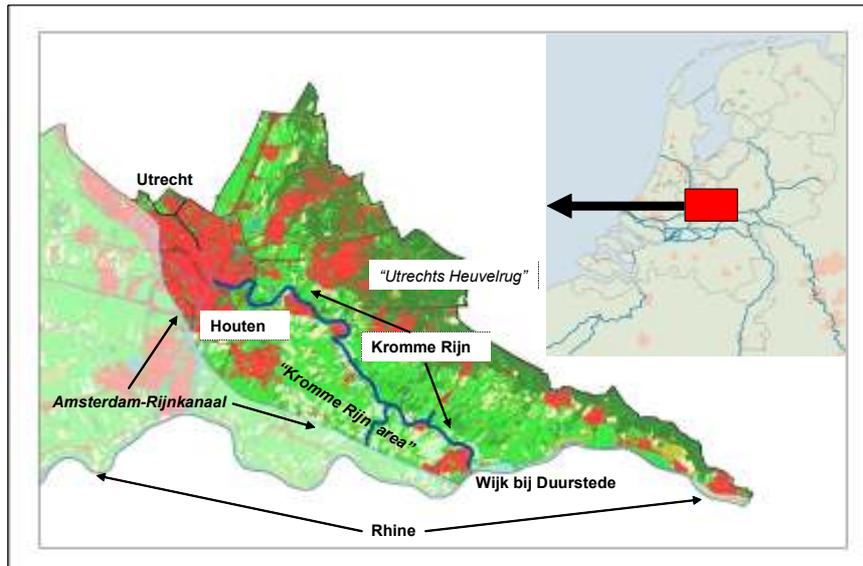
## **2. The case Kromme Rijn**

### **2.1 Introduction**

The governance region of waterboard HDSR is situated in a central region of the Netherlands and comprises a total of 834 km<sup>2</sup>, divided in several smaller water management areas (HDSR 2003). Each water management area has to develop a WAP for which a Good Groundwater and Surface Water Regime (GGSR) is established. This has already been done in several areas that coincide or overlap with the catchment of the Kromme Rijn, except for one area: the Kromme Rijn area. Moreover, as noted earlier, the WAP has to include measures that will make the area both WFD and climate proof. The water management plan for the Kromme Rijn area is being developed in 2006-2007. The Kromme Rijn area is situated between the Kromme Rijn river basin and the Amsterdam-Rijnkanaal (a canal connecting Amsterdam with the Rhine), and between the cities of Wijk bij Duurstede and Houten (see Figure 1). Both the Kromme Rijn and the Amsterdam-Rijnkanaal take their water from the Rhine near Wijk bij Duurstede.

In the course of this participatory planning process a number of researchers of different institutes were intensively involved as part of the NeWater project, an international research project funded by the European Commission on adaptive water management. NeWater researchers have been involved in the design of participatory exercises, facilitation, reporting and evaluation of workshops and meetings.

Figure 1: The Kromme Rijn area



## 2.2. Description of the area and water system

The landscape of the region is characterised by old river beds. On the lower lying clay grounds, deposited by the river Rhine, the agriculture predominantly exists of dairy farming on grasslands. On the higher lying sandy parts fruit farming occurs and roads and builded areas are situated. Urban areas in the region are Wijk bij Duurstede and Houten. Infiltration is very high in the region as a result of the strong draining capacity of the low water level of the Amsterdam-Rijnkanaal and a seeping water area resulting from the higher lying hills of the "Utrechts Heuvelrug", north of the case study area. Because of the draining capacities of the Amsterdam-Rijnkanaal, water must be brought into the area for maintaining water levels and agricultural function. The largest share is supplied by the Kromme Rijn through the dam in the Rhine at Wijk bij Duurstede. A pumping station in the Amsterdam-Rijnkanaal supplies a small share of the water. The quality of the water in the Kromme Rijn and Amsterdam Rijnkanaal is

closely linked to the quality of the water supplied by the Rhine and the land-use in the area. Compared to other areas the density of the water system, with its network of canals, is relatively low.

### **2.3 Problems and issues**

Supplying sufficient surface water is important in the early spring when the night frost threatens the fruit orchards and water is sprinkled on top of the trees to save the buds from freezing. Also, in dry summer months irrigation of orchards and other crops is necessary. Given the fact that the fruit farming sector is still growing in this region the water supply for this sector can become problematic in the future.

In cases of excessive precipitation (due to climate change) and irrigation the water system experiences very high fluctuation of water levels because of the relatively limited water system in the area. However cattle farmers do not have these same high demands for water. Also, historical water management practices, in which farmers were provided with their own individual water needs, have created numerous small water level patches. The water board want to establish a more homogenous water level regime that will be based on the limits of the water system and fewer water level areas.

Finally the water board faces the challenge to implement the standards of the WFD for which water level fluctuations need to be normalised, stretches of natural river banks need to be established, and a number of fish passages need to be constructed.

### **2.4 Stakeholders**

The first step taken in the participation process was mapping out different stakeholders and categorizing them into target groups that were involved in different ways. Stakeholders were analysed using two criteria: the level of interest, and the level of influence in the water management plan. On the basis of these criteria a selection was made for four different groups of stakeholders in the participation process (see table 1).

A large array of governance bodies is involved in decision making at the regional level in the Netherlands: i.e. national and provincial governments;

municipalities; and of course water boards. Further, various farmers' organizations and nature associations represent the interests of different stakeholders in this planning process. For the development of the water management plan, the water board has set up a project with different target groups of stakeholders having different levels of involvement:

- The core group, with, besides the water board, also the Province of Utrecht and three municipalities represented;
- The advisory group, with, besides the members of the core group, also the farmers organizations and nature federations represented.
- The information group, which was sent information on the process and results on a regular basis.
- The citizens of the area.

Table 1: Stakeholders participating in different target groups

Target group	Members
Core group	Water board: Hoogheemraadschap De Stichtse Rijnlanden (HDSR) Province of Utrecht Municipality Wijk bij Duurstede Municipality Houten Municipality Bunnik NeWater researchers
Advisory group	The core group members Agricultural organization (LTO – Noord) Fruit farming organization (NFO) Agricultural Nature and Landscape Association Kromme Rijn region Agency for land consolidation (RAK) Association for environmental education (IVN) Natural Historical Association (KNNV) Nature and Environment Federation National Water Management Agency Utrecht Utrecht Landscape Nature and Environment Wijk bij Duurstede Fishery Platform Stichtse Rijnlanden
Information group	Other stakeholders
Citizens	Inhabitants and landowners of the region

## 2.5 Participatory meetings and workshops

The first version of the stakeholder analysis was made by the responsible policy makers of the water board, the provincial authorities, the municipalities, and NeWater researchers. The group of responsible authorities and NeWater researchers was subsequently called the core group. The core group was collectively responsible for the planning process. Between February 2006 and July 2007, the core group has met seven times. In addition the core group has participated in a field excursion into the area and a reflection workshop halfway the process in which important learning points were thoroughly evaluated.

The second group consisted of stakeholders that are important, in terms of interests and influence, and willing to actively participate in the process. This group was called the advisory group. The advisory group functioned as a feedback board that met regularly to advise the planning process. On the first workshop of the advisory group the results of the stakeholder analysis were discussed and adjusted by the participating stakeholders. The advisory group has met seven times (see table 2). These meetings had a highly participative character: stakeholders were asked for their opinions on the existing problems and the proposals by the water board and requested to give suggestions for alternative solutions. Especially for the advisory group we have evaluated the context, the process and the result of the participation.

The information group consisted of stakeholders with less of an interest or influence on the water management plan, or that did not want to be actively involved. Members of the information group were regularly informed about the developments in the planning process. Finally, the citizens of the region were invited four times to attend an evening meeting where information on the planning process was provided and reactions to issues and actual dilemmas could be given (see table 2). Citizens were invited to the meeting by invitation in case they are owners of a certain threshold of land in the area, by the printed media (i.e. local and regional newspapers), and by the website of the water board.

Further, four newsletters were produced by the water board to inform the citizens of the region. The wider public was able to inform itself through the website of the water board.

Table 2: Overview of participatory meetings

Date:	Activity:	Goal:	Target group:		#:
			Advisory group	Citizens	
16-02-2006	Workshop	Informing stakeholders, Inventory of bottlenecks	X		15
16-05-2006	Citizens evening	Informing citizens Inventory of bottlenecks		X	30
08-06-2006	Excursion	Hands-on experience of the region			12
22-06-2006	Workshop	Reaction to analysis of bottleneck inventory Reaction to possible policy measures	X		8

18-10-2006	Reflection workshop	Preliminary reflection on the participation process and learning			15
25-01-2007	Workshop	Informing stakeholders Reaction to problem identification and outline of solutions	X		13
29-03-2007	Workshop	Preparation of citizens evening	X		13
11-04-2007	Citizens evening	Informing citizens Reaction to policy direction and measures		X	50
21-05-2007	Citizens evening	Informing citizens Reaction to possible measures		X	40
30-05-2007	Workshop	Informing stakeholders Discussing the progress	X		14
04-07-2007	Workshop	Discussing the water management plan	X		14
20-09-2007	Workshop	Deliberate on future steps	X		20
26-09-2007	Citizens evening	Informing citizens about the water plan and procedures		X	65

## 2.6 Brief description of the outcome and the way forward

Based on the input given by the different target stakeholder groups the water board policy makers have drafted a water area plan for the Kromme Rijn area. To make the water system and the water level management more robust the water board has to proposed broaden the main water supplying and discharging canals. This way the number of water levels can be reduced, the water level fluctuations can be normalised, because no additional water needs to be pumped into the area in cases of night frost of drought, and some stretches of renaturalised river banks will be established. The realisation of this plan is based on the voluntary selling of land stretches along the ditches and both cattle farmers as well as fruit farmers are invited to sell. However, it will be mainly the fruit farmers that will benefit from the plan. Moreover the water tax with which the infrastructural changes will have to be paid, can not be differentiated among different groups of farmers. Whether the plan will succeed remains to be seen and depends on an active continuation of the participatory process, in which opposing user interests need to be reconciled.

### **3. Evaluation study**

#### **3.1 Introduction**

The different target group meetings were evaluated in different ways. The functioning of the core group is evaluated by a special reflection workshop halfway and at the end of the process, in which learning points are evaluated in depth by core group members facilitated by the NeWater researchers. Because of the more active involvement and fixed nature of the advisory group, a more comprehensive evaluation approach was designed for this target group with a series of both quantitative questionnaires and qualitative telephone interviews evaluating a whole range of context, process and outcome related factors. The results of this study will be elaborated in another paper. In the following section the methodology and results of the evaluation of the citizens evenings will be described and presented.

#### **3.2 Evaluation methodology of citizen's evenings**

The unknown number and composition of the audience expected to participate during the citizens evenings made us choose for a fixed and basic questionnaire comparing a limited set of criteria over a series of meetings with a slightly larger group of participants. The issues evaluated during the citizens' evenings were determined by both practical considerations of the water board and academic interests of the NeWater researchers. The questionnaire was kept short because of the voluntary nature of participation and the risk of stakeholder fatigue. Box 1 presents the seven questions that were repeatedly evaluated using a 5-point Likert scale, with value 1 representing "Absolutely" to value 5 representing "Absolutely not". The middle value 3 represented "Moderately".

Box 1: Questions used in evaluation

- |   |
|---|
| <ol style="list-style-type: none"><li>1 Were you timely informed about the citizens evening?</li><li>2 Was the goal of the citizens evening clear from the outset?</li><li>3 Do you find the citizens evening useful for understanding the contents of the Water Area Plan?</li><li>4 Do you find the citizens evening useful for giving your opinion?</li><li>5 Do you find the citizens evening useful for better understanding the differing interests and perspectives?</li><li>6 Do you find the small group sessions useful for giving your opinion and discussing the issues?</li><li>7 Do you find it important to be involved in the development of the Water Area Plan?</li></ol> |
|---|

Further sufficient opportunity was provided for explaining the choice of boxes that were ticked and providing additional comments. Participants were asked to fill in the questionnaire at the end of the citizens evening and to hand it over to the NeWater researcher, or sent it by post. In addition to the results of the questionnaires, short interviews were held with during some of the citizens' evenings and observations were made and reported by NeWater researchers. The results of the evaluation efforts were subsequently discussed during preparatory meetings with the water board.

### 3.3 Results and observations

The evaluation questionnaire was administered during the first three citizens' evenings organized between May 2006 and June 2007. A total of approximately 120 citizens participated during these three meetings and a total of 69 questionnaires were completely filled out and collected, which is well over 50 % of the participants (see table 3). Observations made by the researchers confirmed that by far the largest share of participants during all three meetings was male. Table 4 presents the average scores given to the evaluation questions during the three citizen's evenings. The distribution of scores was fairly uniform in the dataset; where major outliers or fluctuations occurred in the distribution of values mention is made in the presentation.

Table 3: Response rates on the three citizens' evenings and total response

	16 May 2006		11 April 2007		21 May 2007		Total	
Participants:	# +/-30		# +/-50		# +/-40		# +/- 120	
Response:	# 17	57%	# 27	54%	# 25	63%	# 69	58%

Table 4: Average scores given to the evaluation questions

16 May 2006	11 April 2007	21 May 2007
1. Were you timely informed about the citizens evening?		
2.2	2.0	1.7
2. Was the goal of the citizens evening clear?		
3.0	2.3	1.5
3. Do you find this citizens evening useful for understanding the contents of the Water Area Plan?		
2.0	1.6	1.9
4. Do you find this citizens evening useful for giving your opinion?		
1.9	2.1	1.8
5. Do you find this citizens evening useful for understanding the differing interests and perspectives?		
2.2	2.2	2.0
6. Do you find the small group sessions useful for giving your opinion and discussing the issues?		
1.8	1.9	1.5
7. Do you find it important to be involved in the development of the Water Area Plan?		
1.5	1.2	1.2

The data show that participants to the citizens' evenings consider themselves increasingly better informed time to attend the meeting. This outcome can be explained in several ways. First, the water board could be undergoing a learning curve in terms of how to reach the participants. Second, the citizens may have become more aware of the planning process and therefore more receptive when the meeting is notified in the media. Third, the last citizen's evening was organized especially for landowners along ditches that are planned to be widened, and therefore invited directly by a mailed invitation.

The goal of the citizen's evenings has also become increasingly clear for the participants over the course of the year. This again can be explained by progress made by the water board regarding field results and modeling work. In the course of the year their analysis and simultaneously their story case became more and more complete and concrete in public presentations and invitations. On the other hand, the citizen's may have gained a greater

understanding of the issues over the course of the year and thereby the need to organize evenings to discuss these issues. Besides a greater average understanding of the goals of the citizen's evenings the distribution of scores has also become more uniform, with more extreme values during the first meeting.

Overall the utility of the citizen's evening was valued quite high from the start by the participants and has slightly grown in the course of the process. Some of the fluctuations between the usefulness of the citizen's evenings for understanding the process and for giving opinions may be explained by the main objective of these particular meetings. The bottle-neck inventory of the first citizen's evening made giving opinions quite important, whereas during the second meeting major results and the outlines of the plan were presented, putting more emphasis on understanding the contents of the water management plan. The slightly better scores for understanding the interests and perspectives of other stakeholders during the last meeting could be related to the discussion about policy measures, making the distribution of costs and benefits among the citizens to the forefront of the discussions. Comments made on the questionnaires indicated that participants have gained understanding of the complexity of the issue when taking the different stakes and interests into account.

The utility of the chosen approach of having small group discussions was generally valued very high. Small group discussions allowed the participants more time and a lower threshold to voice their opinions during participatory sessions. Also, the usefulness of the group discussions grew as the process evolved. This can be explained by the increased familiarity of both the water board and the participants with this approach. Also, as the policy measures became part of the discussion in the later meetings, possible changes in the personal situation became more apparent. These discussions about individual cases were effectively directed towards the small group discussions, whereas general information was provided during plenary sessions.

Finally, the data show that participants generally find it very important to be involved in the development of the water management plan. This can be explained by the fact that they have taken the effort to attend the citizen's evenings. Also, participants find it more and more important as the project evolves as the issues and possible policy measures become clearer. The comments made on the questionnaires indicate that this can be explained by the growing awareness of the implications of the water management plan for the personal situation.

#### **4. Discussion and conclusion**

Based on the evaluation forms filled in during the citizen's evenings and our own observations the following effects were demonstrated:

##### ***Awareness of the problem by the stakeholders involved***

During the citizen's evenings the inhabitants of the region have become more aware of the fact that the current water system is not capable of supplying sufficient water quantities to meet the demands of the fruit farming sector. Besides the citizen's evenings itself, the advisory group workshops may have also contributed towards this achievement. The problem became discussible during these meetings, while participants did not raise these issues at the start of the process.

##### ***Open attitude of the water board***

During the process the water board has adopted a more open attitude towards the problem of water supply and its own limitations in solving it. This attitude has invited the participants of the different groups to be more involved in finding solutions. In addition the increased openness has clarified the position of the water board in this issue. As a result, the presentations of the water board during the last two citizen's evenings have been very clear. Both the open attitude and the clarity with respect to the position of the water board have stimulated discussions and made the issues more pertinent.

##### ***Growth of awareness of shared responsibility and involvement***

Due to the citizen's evenings and also the advisory group meetings, inhabitants of the region and representatives of involved organizations and stakeholder groups have realized that the water board is not capable of solely solving the problem, but that cooperation of the landowners and inhabitants is essential. We observed an increase in involvement, especially regarding the suggestions made by participants of both the later citizen's evenings and the advisory group workshops.

### ***Early involvement of citizen's and stakeholders creates ownership***

It has been demonstrated that early involvement of citizens and stakeholders in the planning process has created more ownership for the policy plan. Despite a number of painful policy measures (e.g. capturing land for widening canals), many of the participants of the citizen's evenings realize that the necessity of the measure as a result of their understanding of the issue. The ownership effect was confirmed at the very last citizen's evening (the one that was not evaluated), when a group of peasant farmers that were absent during earlier meetings were confronted with the draft water management plan. They resisted fiercely against the harsh measures, while early participants of the process and advisory group members came to the defense of the water board.

### ***Practical solutions in smaller scale group sessions***

The citizen's evenings have yielded many localized bottle-necks and concrete improvements in the solutions proposed by the water board. Especially the small group discussions have played an important role in this, together with the use of excellent maps picturing the area before and after the policy measures.

The water management plan has currently reached the official steps of the planning process: the official opportunity for public comment, the decision making by the water board, and the execution of the plan.

Analysis based on views of people that took the time to come to the citizen's evenings. Automatically there may be a positive bias in the data

### **Literature:**

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