GENERAL INFORMATION

PETUS description of tool in use	
Name of the case	Developing new methods for co-operation on groundwater protection: Water co-operation and project “Clean Water”.
Name of the tool	Water co-operation
Country	Denmark
City / region Total area (km2) Population Density (people/km2)	Larger Copenhagen region 2870,6 km^2 1.819.163 634 people/km^2
Tool user’s profile a. Organisation name (municipality, NGO, national or regional department, company, etc.) b. Field of activity c. Detailed contact/feedback (project website, e-mail, address, tel., fax)	a. Copenhagen Energy (Supplier), The municipality of Slangerup, The Agenda 21 Center and local waterworks b. building & land use / water sector c. Addresses, telephone and mails can be found at: Copenhagen Energy: http://www.ke.dk/portal/page?_pageid=59,1&_dad=portal&_schema=PORTAL Slangerup municipality: http://www.slangerupkomm.dk/sw791.asp Agenda 21-center: http://agenda21center.dk/default.asp
Reviewer, date: Jesper Ole Jensen, 26.11.04	

Short description of the case

The case describes new types of collaboration methods on groundwater protection. Water co-operations are a general method that are implemented in many areas in DK as the water provision often consists of many small user owned water works.

The specific case focuses on the water co-operation between the Copenhagen Energy (water section) and the local water works in the municipality of Slangerup. As groundwater pollution is a growing problem all partners are interested in collaboration in protecting the groundwater resources. The co-operation is a frame for collaboration between the very different actors. The water co-operations are voluntary, based on the need to expand the effort for groundwater protection.

Why was the case chosen? This is an example on new types of collaboration projects between actors involved in groundwater protection, where new methods are being developed and called for (partnering / process-tool)

To which PETUS key-problem is this case study related? The water resource quality and availability (6.1.), Management of conception of urban water infrastructures (6.2), and sustainable water management in cities (6.3.)

Sector	Waste	Energy	Water	Transport	Green/blue	Building & Land use
			X			

Scale of project	Component	Building	Neighbourhood	City	Region
					x

Status of project	Starting up	Ongoing	Finished	Start date	End date (exp.)
		x			

Key words

Water co-operations; groundwater protection; groundwater pollution; collaboration methods; stakeholder involvement

Project a. Object (building, city park, wind farm, etc.) b. Type of activity (regeneration, renovation, new development, etc.) c. Type of product (plan, scheme, design project, etc.)	a. Groundwater source in the region b. Actions to protect groundwater (reducing use of fertilisers, raising forest, closing wells etc.) c. Collaboration method
Tool a. Character (according to WP3final0704.doc) b. Benchmarks (qualitative or quantitative) c. Availability (paid/ free)	a. Collaboration method b. No c. – (free)
Decision-making process a. Stage of the tool implementation (preliminary,	a. Preliminary

midterm, etc.) b. Level (political, technical, etc.) c. Public participation	 b. Technical and political c. Yes
Other *(optional, if needed)*	

DETAILED INFORMATION

A. Detailed description of project and tool	
1. Description of context (existing strategies, laws, policy, action plans, etc.): EU, national, regional, municipal	In 1998 the Water Extraction Act enabled the water suppliers to pose a fee on water to establish water co-operations and strengthen groundwater protection – the so-called groundwater funds. Also, the counties were given permission to impose a duty for groundwater protection. It became possible to establish a formal collaboration ("Water Co-operations") with local water works and others with an interest in groundwater protection around the catchment sites. The co-operation is embedded in existing regulation of the water sector, including monitoring programs for the aquatic environment (for instance the "National Program for Surveillance of the Aquatic Environment", NOVA, running from 1998-2003)
2. Description of project a. Background (What caused the initiation of the project?; What was the problem? Who initiated the project?);  **Figure 1**: Map showing the geographical extension of the Water Co-operation in Slangerup, and the local waterworks involved	a. See 1. Traditionally tasks in water supply management, including groundwater use, - catchments, and –protection is normally divided between different actor-groups, including consumers, regional water providers (Copenhagen Water), local water providers (small waterworks), local users of the land (farmers, private well owners etc.). The water cooperation enables coordinated initiatives towards protecting the groundwater between these actors (see figure 1). This specific cooperation (between Copenhagen Energy and the local stakeholders in Slangerup municipality), has included a number of different initiatives to protect the groundwater in the municipality of Slangerup, which is one of the main groundwater catchment areas for Copenhagen Energy. One of the main initiatives has been aimed at closing private wells and drillings that are not used. The municipality has made a registration of all wells and drillings, which amounted in more than 200. These are seen as 'open wounds' that leads pollution directly to the groundwater – e.g. some wells has been used by farmers as a deposit for used empty packaging from pesticides. Generally, pollution from point-sources has been underestimated, but newer research shows that the groundwater is very vulnerable for pollution from such sites; therefore it is taken very serious in the water co-operation. The municipality can force people to close a well, but as this can be very difficult they prefer if the owner closes his well voluntary. Other initiatives are a campaign for avoiding pesticides in private gardens, and the possibilities for farmers to have free consultancy about their practices with pesticides. A future tasks is to buy up fields of special interest for groundwater protection in order to relay the use – e.g. to organic farming, forest or fallow.
b. Objectives/aims (sustainability statement – what issues of sustainability were attacked); c. Time interval and stages of project realization; d. Financing – amount, sources, institutions involved, partnerships, levels. e. Other sectors involved in the particular project/problem (conflicts and/or links)	b. the main issue is related to groundwater protection c. The cooperation started in 2001, there is no expected end date d. The cooperation is financed through the "groundwater funds" e. Groundwater protection is related to land use (agriculture, nature, industry, recreation etc.), as this influences the pollution of the groundwater.
3. Description of tool	**The water co-operation** The actors have a common interest in groundwater protection.

	Thus water co-operations provides a basis for: • Coordination of knowledge – bringing together scientific and legal knowledge with knowledge of local context e.g. the interest of the local citizens, how the local farmers act • Common efforts – e.g to coordinate the tasks of the municipality as authority with the tasks of the of water works – and to draw in Copenhagen Energy in the local collaborations • Allocation of fiscal funds for groundwater protection - as the water co-operation manages the groundwater fund derived by a fee for each cached m3. • Further collaboration - in a longer perspective the water co-operation is a basis for further collaboration on management etc.
a. Character (according to WP3final0704.doc) - calculation tools, process tools, assessment methods, generic tools, simulation tools, guidelines, framework tools, schemes, indicators and monitoring, checklists, case-specific tools; b. Availability of the tool (web-based / paper, paid / free, etc.) c. Based on existing tool or newly elaborated; d. Adaptation of the tool to the local context (are there local experts involved in tool's development?) e. Other tools implemented to support the project development	a. Collaboration tool/procedure b. free c. Networking is a traditional way of strengthening the knowledge basis and coordination. An important motive for water co-operations is the allocation of fiscal resources to ground water protection. d. The concept of water co-operations has to be adapted locally (to the physical and organizational conditions), each time a new co-operation is established. e. The cooperation includes experiences from other similar types of projects and collaborations (project "Clean Water" and the MERIT project).
B. Tool implementation	
1. Argumentation for choosing the tool a. What were the reasons for the implementation of the tool? (voluntary or requested by what local, national, etc regulation)	The partners have their own perspectives on the water co-operation: **Copenhagen Energy** (the Water Section of Copenhagen Energy) is highly dependent on groundwater catchments in surrounding hinterlands, and on preventing pollution on these sites. As the catchments takes place far away from Copenhagen (typically 20-40 kilometers), the use and protection of the local sites has traditionally been left to local authorities and water works, with little interference from Copenhagen Energy. Copenhagen Energy sees the water co-operations as a way to support the local water suppliers with knowledge and resources, and at the same time get access to knowledge about the local conditions at the catchment sites – who are using the sites, what are the interest of the local users, what are the chances for getting changes through etc. Copenhagen Energy has formulated their objectives with the collaboration in a checklist, where it is described shortly why it is important to take initiatives on each point. However, this checklist might vary, depending on the context. Further when local stakeholders (users, farmers, industries etc.), are addressed with suggestions for initiatives on groundwater protection, it is much more powerful when there is an established cooperation behind, rather than it is only the local water supplier, or Copenhagen Energy, who would probably be regarded as the "Copenhageners interfering in local business". Another motivation for Copenhagen Energy is that the traditional decision-making procedure (counties drawing up groundwater plans, and on the basis of these afterwards decides which initiatives for groundwater protection should be taken), often takes too long time. For Copenhagen Energy it is more important to take initiatives instantly, as there are already many risks, which can be prevented. "We can't just sit here with our hands on our knees" (interview). It is very important for Copenhagen Energy to make the local waterworks feel an ownership to the projects as well; therefore it is a matter of not pushing the cooperation too hard.

b. Who took the initiative for choosing /elaboration the tool? c. What were the criteria for choosing the tool? d. Was there knowledge of other tools and were they considered?	**The local water works and Slangerup municipality** focuses on the water co-operation as a way to secure fiscal means to realise the ground water protection in Slangerup The local waterworks are small, and have limited resources. Their perspective is that the users of the groundwater in Slangerup should all contribute to the groundwater protection. As only the minority of users is situated in Slangerup ground water protection is not a task only for the local actors. The municipality and the local water works collaborated in advanced as the municipality are the authority for the local water works. But the water co-operation was a frame for bringing in Copenhagen Energy and for establishing a ground water fund as a basis for the groundwater protection. The local water works also uses the co-operation to getter better prices for e.g. tests and analysis through tenders. The municipality sees the water co-operations as an important supplement to their work as an authority. b. the participants c. Establishing the cooperation was an opportunity d. no
2. Barriers for the tool implementation What were the main problems in the tool implementation? (Regulation, information available, public awareness, lack of clear SD definitions and benchmarks, communication etc.)	One main barrier is the long time it takes to establish water cooperation's. First, all the partners wishes and needs have to be identified, and afterwards procedures and regulations have to be defined. Finally, all partners have to approve the act. This process can be quite complicated and often takes long time, and in this time no real initiatives for groundwater protection is being made. Another barrier is a lack of resources in terms of staff and economy that the partners can invest in the water cooperation. Finally not all the water-works in Slangerup are integrated in the water co-operation because of their opposition towards Copenhagen Energy that has been regarded as exploiting the water causing the groundwater level to sink. But in the other actors opinion this opposition are declining and they expect the rest of the water-works to join the water co-operation in the next years.
C. Influence of the tool on the decision-making process	
1. Description of the decision-making process/ procedures a. Stages b. Levels (political, technical, etc.) c. Sources of information used during the dmp; d. Who are the decision-makers?	The water co-operation connects the different actors involved in water use and ground water protection. It draws in Copenhagen Energy into the local work on ground water protection together with the municipality and the other water works. In this way resources for groundwater protection are allocated and coordination between a row of different actors are established. Hence the process of groundwater protection is much more focused and extensive. The partners recognize also the different perspectives and resources of the different actors – that should be taken into consideration for the water co-operation to work well. The local water works points to the role of Copenhagen Energy as a resource to secure ground water protection in the catchments areas and as a knowledge resource as their organisation is much larger. The decisions in the water co-operations of Slangerup are based on consensus – all the partners must agree. In a longer time perspective the water co-operations could be forerunners for more wide-ranging collaborations. Thus the municipality points to the collaboration on management of the water works and even amalgamations of the water works – now that they know each other it does not seems that intolerable. a. all stages b. Technical and political c. Meetings, agreement d. The main actors are the Copenhagen Energy (the Water-section), the local water works, the municipality and other stakeholders in sustainable groundwater protection such as the Agenda21Center.

e. Who made the final decision for the project implementation? Was it political or technical decision?	e. all actors had to agree to participate
2. Tool in decision-making process a. At what stage was the tool implemented? By whom? (experts, politicians, etc.) b. How did the tool output influence the process (added or skipped levels/stages in the existing decision-making process, etc.)? c. Quantitative goals or benchmarks defined? (If YES, which – and what were they compared to?) d. Was the tool used to support argumentations?	a. The cooperation is a framework, that includes all stages b. the tool has generated new decision-making processes that was not present before. Some of the decisions that Copenhagen Energy would normally take on their own is not laid out in the water cooperation, where each participant has one vote, which ensures that Copenhagen Energy can not steamroll the decisions. Although CE and the local water suppliers often have the same interests, they can also look quite differently at a case. For instance, for the local waterworks it might be much more important to establish a database for control-measures before they even start to talk about groundwater protection. c. The water collaboration does not directly include indicators or measurable goals. Existing regulation in the water sector (for instance the "National Program for Surveillance of the Aquatic Environment", NOVA, running from 1998-2003), however, includes monitoring of the aquatic environment, including the groundwater level, and the pollution of it, due to national and international regulation. Within the different projects in the water collaborations, a number of quantitative indicators such as the number of unused wells and drillings to be closed are used. d. Yes
3. Transparency of decision-making process a. How was the information of the dmp disseminated? - directly (decision makers – public) or indirectly (decision makers - NGO, PR company, etc. - public); sources of dissemination used (mass media, internet, brochure, etc.) b. How was the public involved? c. Was there a public discussion over the project and at what stage of the project development?	a. b. The water co-operation has produced a pamphlet, directed towards owners of private wells, to avoid pollution, or get the wells closed. It is very unusual for the water suppliers to have this outreaching role in relation to their customers, which takes some time to get used to. c. see b.
D. Expert assessment/analysis/comment of the tool effectiveness	
1. Assessment by tool users a. Were there measurable improvements as a result of the tool implementation? If YES, what? If no: why not? b. Were there any spun-off's or unintended consequences? c. General view on the tool? Lessons learned?	**See B.1**. a. Due to the short time, measurable results have been limited. One example is that the initiatives have resulted closing of 20 private wells, and 9 waiting (out of app. 200). Therefore there is a long way to go. However, once the cooperation gets known, the local newspapers starts to write about it, which is remarked by the other water co-operation's, and encourages them also. b. too early to say c. All the partners – Copenhagen Energy, The municipality of Slangerup and the local water works - seem to be very positive towards the co-operation. There seems to be several advantages in the water Co-operations for the actors involved. Copenhagen Energy finds the co-operation with the local water works and municipalities are important, for various reasons (see B.1.). For the local water suppliers it gives more resources and support. The advantages of the planning with more actors involved are that different views are presented on each initiative and case, which might open up for a discussion on how sustainability should be understood in a specific case. Also, it will make it clearer where the best chances are for sustainable changes, by opening the discussion on where and how to use the resources, and thereby identifying the most efficient efforts.

d. potentials for further use of the tool? e. Will the actors recommend it or use it in other cases - why / why not?	d. As the concept of 'Water cooperation' has been institutionalized, there will probably be a call for methods to establish collaboration. Also the Water Frame Directive (WFD) will most likely lead to new types of collaboration and planning. The first parts of the WFD are about to be implemented, with changes in the Water Act, and will be fully implemented in 2005. According to consultants, this will imply a quest for new tools for collaboration, and at the moment counties and water suppliers are, like in Copenhagen, preparing themselves for the WFD, for instance by carrying out pilot projects as "Clean Water" and "MERIT". This also suggests that there will be developed a number of new ways to plan, manage and cooperate, the in different parts of the country, as a part of implementing the WFD. e. yes
2. Reviewer's assessment of the tool (usefulness, sustainability relevance, who are the actors excluded? etc.) Suggestions and needs for further development of the tool	There are strong motivations for developing this kind of process and partnership tools: • Coordination of knowledge from multiple levels • Better coordination between actors • More efficient means for groundwater protection • Increasing problems with polluted groundwater • The Water Frame Directive • Development of partnerships and further concentration within the technical infrastructure.
E. Additional information on the case study available	
Websites	
References *concerning the case but also the key words or problem* (papers, articles, reports, laws, etc.)	8 partners in project Clean Water, 2002: *Report for the Green Fund on first phase of project "Clean Water", June 2001 to March 2002*. Copenhagen. *Green Partnership between country and city*. Newsletter from the municipality of Copenhagen, d. 28.June, 2001. Newsletters, August 2002 and March 2003. Copenhagen Energy, section for Water quality, groundwater protection and water catchment. Copenhagen Energy, 2002: *The Ground Water Fund, Status for 2001 and plan for 2002 [Grundvandspuljen. Status for 2001 og plan for 2002]*. Copenhagen Energy, Copenhagen. *Forslag til lov om ændring af lov om vandforsyning m.v., lov om miljøbeskyttelse, lov om jordforurening og lov om planlægning*. (Ændringer som følge af lov om miljømål m.v. for vandområder og internationale naturbeskyttelsesområder). Fremsat den 8. oktober 2003 af miljøministeren (Hans Christian Schmidt): Lokaliseret på: http://www.ft.dk/Samling/20031/lovforslag_som_fremsat/L16.htm
Other sources (Interviews, conferences, discussions, etc.)	Interview with Mrs. Dorthe von Bülow and Mr. Ole Wintherreich, (Copenhagen Energy) 11.03.03 Interview with Mr. Jesper Christoffersen (The Agenda 21 Center) 14.03.04 Interview with Mr. Helge Frederiksen (Slangerup Water co-operation) 15.03.04 Interview with Mr. Tom Henrik Johansen (The municipality of Slangerup) 16.03.04
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