

## **CHAPTER 9        Comments from the Havelse Creek Citizens' Group on draft GEUS report entitled "Test of Bayesian belief network and stakeholder involvement"**

*Hans Jørgen Henriksen, GEUS*

The comments are dated 25 May 2004 and marked with 'cursive'. Answers in 'normal'. This chapter is a translation of answers in Danish to citizens' group 21 June 2004 (GEUS, 2004)

### **9.1 Re Chapter 0: Preamble**

*It is a good idea to use "Bayesian belief networks" (BBNs) to process the analogue and digital information collected. The "car start" problem was too simplified for the use it was put to, but the model idea is fine if the necessary model is structured correctly and the various scenarios prepared on the basis of the model provide an adequate explanation of the reasons for selecting the parameters and a comprehensible description of the resultant calculated values and consequences.*

*It must be remembered that not only researchers and scientists have to be able to understand the consequences, but also politicians and people such as those in the Citizen's Group.*

#### ANSWER

The preamble is thought of like as a kind of appetizer. The 'car' problem was actually used by professor Finn Jensen, University of Aalborg on the first meeting in the professional stakeholder group. That is the reason why it has been used in the preamble. On the other hand we agree about the criticism brought forward by the citizens' group, that the example is not so relevant for the Havelse wellfield case study. Hopefully, we can find better and more relevant examples on the guideline CD, which is a deliverable from the MERIT project. Thus we have incorporated a footnote in the preamble with a link to chapter 9, mentioning the critics by the citizens' group in relation to the 'car' problem.

### **9.2 Re Chapters 1 and 2**

*The Citizens' Group would also very much appreciate the opportunity to review these chapters before the report is published so we can see the total work in which we are participating.*

*We would also suggest, for the sake of readability, that the report start with an explanatory list of the abbreviations and acronyms used. We also hope that the report is carefully proofread for language, grammar and spelling before it is published.*

*We recommend that the project's steering committee step forward and be mentioned by name in a description of the project's organisation, responsibility and competencies.*

*Moreover, we ask that the individual authors of the various chapters be introduced by name, with their affiliations and reasons for participation listed as well.*

#### ANSWER

GEUS will write the summary of the report and it is GEUS's responsibility as a research institution that the summary covers the content of the entire report. That is assured through internal quality assurance procedures at GEUS.

The suggestion to include a list of acronyms and careful proofreading of the report is accepted. The report has been proofread using an external specialist for language, grammar and spelling.

The suggestion to let the steering committee step forward and be mentioned by name has been incorporated with description of organisation, responsibility and competencies (included in preamble).

Authors will be introduced by name with their affiliations.

### **9.3 Re Chapter 3: Introduction**

*The intention behind the work on and in connection with the BBN model and its results is fine, but it should not be the experts that choose "the best" result. They should present several scenarios with descriptions of the consequences and allow politicians and citizens to choose. As is apparent, unfortunately, several places in the report, some of the experts do not have any great belief in the ability of the citizens' group to understand, provide information and make decisions, and, similarly, we do not believe that some of the "experts" possess it, either.*

*You must be very careful that the model doesn't fascinate you so much that you forget that it cannot be used in all situations, and that the model and its results have to be "humanised" **before** its results are used in decision-making. This is especially true with respect to the basis for farming contracts.*

*There is a good description of how the work should be done and what should be taken into consideration. We just hope that this does not all come from the references, but from recognised insight.*

*It is all right for Copenhagen Energy to get some of its water supply for the greater Copenhagen area from Frederiksborg County, but we believe that the effects on the local*

*area should be taken more into consideration and the greater Copenhagen area should learn to conserve water better.*

*The chapter does a good job explaining the problems that can arise in the communication between specialists and citizens, but it is the responsibility of the specialist to adjust the information and communication, not the other way around. There are indications that not all the specialists had read and understood what was said in the publications used as references for the report.*

*The short presentation of the BBN is acceptable, also together with the statements about how it is used and how the results should be communicated with respect to contact with "the non-specialists". A great deal of it was taken from the reference literature, and we will just have to hope that the specialists understand the meaning of the words that were written. It does, however, give one a bit of food for thought that the specialists had decided in advance how much the "non-specialists" should be involved, asked for advice and informed, and how much they should be co-responsible. We hope that the drawing up of the BBN models and collaboration procedures in the three other cases can help make the final model more acceptable than the Danish one.*

*In general, however, we think that Chapter 3 was fine work, but it seemed to be inclined too much towards study of the literature and contained too little actual contact with the everyday world of the citizens' group.*

#### ANSWER

The project is based on the EU Water Framework Directive guidance documents for public participation, which prescribes different levels of involvement of stakeholders and general public. According to WFD active involvement is encouraged. Information is obligatory both regarding general public and stakeholders, allowing feedback to the basis of decisions. Furthermore, stakeholders must be consulted in relation to water management plans. General public and stakeholders can give input to the basis for decisions, but the actual decision making is in the hand of the water district authority, eg. the responsible regional authority.

We understand that some of the comments to chapter 3 are a result of a mixture of theory (state of the art) and practice (the actual Havelse case) in the draft report. We welcome the critics from the citizens' group as a constructive input. The chapter has been restructured, allowing theory to be handled first, followed by the practical case study and CE's activities. The protocol is our own product and based on experiences from the Danish case study, not something that we have copied from the literature.

It has never been the intention that non-experts in any way should be kept outside the project arena, or shouldn't be consulted properly when asking for suggestions, information, comments etc. On the contrary, we did what we was able to do by involving members of the general public though the public meeting in Sigerslevøster and the subsequent establishment of the citizens' group.

We later realised that it had been a mistake that the citizens' group had 'their own life'. Next time we will use BBNs, both citizens' and stakeholder groups should definitely be directly

involved in the development of BBNs from the very beginning of the process. Eventually with some hands on training which probably is necessary in order to introduce the groups to the 'magic' of BBNs. Therefore, we have included a footnote in chapter 3 with a link to the comments by the citizens' group (chapter 9).

Water saving is still necessary in Copenhagen. Consumption today is 125 liter pro person per day in Copenhagen (= the average consumption on a national scale). The goal is 110 liter pro person per day. In buildings with water consumption 'meters' installed for trade (pizzerias etc.) the consumption today is as low as 90 liter pro person per day. CE has a 'grant' arrangement for installation of meters in flats. This grant arrangement will continue until 2010.

Water spills (losses) in the supply system (network) in Copenhagen is around 4 % (3.8 %), one of the lowest in the country. The abstraction has decreased from 100 mio. m<sup>3</sup>/year (in mid seventies) to 60 mio. m<sup>3</sup>/year today.

Copenhagen Energy supplies 19 other municipalities beside Copenhagen municipality.

Water saving campaigns under the HUR water cooperation (where CE is a member) is coming up and will be conducted in autumn 2004.

## **9.4 Re Chapter 4: Description of the wider water resources management in Denmark**

*The description of the distribution of responsibility and of water supply activities in connection with, among other things, the registration of abstraction areas seems to adequately covered.*

*With respect to the involvement of citizens in water abstraction projects and water protection projects, we hope that the authorities will become better at living up to the requirements of the Water Directive. Copenhagen Energy tried in connection with the Havelse Creek matter, but it was a somewhat weak effort which probably should be followed up by a serious informing of each household in the area.*

### ANSWER

We refer to the letters, which has been send out concerning investigations of location of the new wellfields. The new locations are still negotiated. A groundwater model has been constructed. In the proposal for new field locations four alternatives has been considered, within a polygon delineated by Frederiksborg County.

Issues related to groundwater abstraction and drawdown of groundwater table below sea level (problems with saltwater near coastline) are also discussed with Frederiksborg county.

It is not the case that there has been an agreement between the authorities and Copenhagen Energy, which has caused the flooding of the farmlands. Groundwater

abstraction at Havelse wellfield was stopped due to water quality problems partly related to the flooding of the wellfield area.

The constructed BBNs for the flooding case illustrate a possible coupling of data from Frederiksborg county collected at the gauging station upstream at Strø, from citizen Bjørn Hansen collected downstream and assessments made by COWI consult in relation to the pilot project of establishment of wetlands along Havelse creek.

We agree that this BBN should be further developed to include a number of factors which also play a role like relationship between groundwater abstraction and flooding of farmlands, storm water discharges, farm economics and socio-economics. We didn't go so far within the frame of the present MERIT case study (of various reasons).

We will include a footnote in the chapter with a link to the comments by the citizens' group included in this chapter 9.

## **9.5 Re Chapter 5: Stakeholder involvement**

*It was a shame that more didn't come out of those activities. A different, professional management and consultancy before, during and after the meetings could have provided substantially better results. Our first impression was that the specialists did not wish to involve themselves with the citizens.*

*The chapter has many lists and diagrams that were not discussed but will presumably be dealt with later. It is a too bad for Jan Poulsen that he does not quite manage to describe what he got out of chairing the Citizens' Group meetings.*

*The origins of Annexes 1 and 2 should be stated.*

### **ANSWER**

We have taken the comments from the citizens' group 'ad notam'. We agree, that the process and the meetings should have been better anchored to the steering committee (GEUS and CE) next time, and that the idea to let the citizens' group 'have their own life' wasn't an optimal decision.

There has been included a footnote about this in chapter 5 with at link to this chapter and this comment will also be considered in the recommendations for the use of BBNs.

There will also be included a discussion in chapter 5 which describes the results of the analysis (tables).

## 9.6 Re Chapter 6: Development of Bayesian belief networks

*There is an interesting description of a case in Lyngby (the Lyngby near Aarhus) that describes the means that can be used to reduce groundwater pollution from agriculture, although doubt is expressed that it would be possible to use the same model in the Havelse case.*

*There is another explanatory introduction to BBNs – a good one – and there are even cited readable references about the model, and it tells you what you should be careful about and how you can use the results in decision-making, and recommends that you remember to consult the stakeholders. So remember to ask the citizens as well.*

*It says that BBNs are instruments that can be used to deal with theoretical and practical problems with a built-in degree of uncertainty and complexity, and in dealing with the problems achieve results that can be used and can make a decision-making process easier. As an example, it is used to look at the problems in connection with farming contracts aimed at stopping the use of pesticides in groundwater abstraction areas that need to be protected against pollution.*

*The first draft model for farming contracts is stated as a result of generalised paperwork [literally, “desk work” –translator].*

*In the presentations for “the professional stakeholders”, only one model was provided, and there was no description of parameters; for the citizens’ group, the model was not shown: they probably thought no one would be able to understand it.*

*This has been an overall flaw in the contact with stakeholders: that the specialists underestimated the ability of “the citizens” to comprehend the significance of the models.*

*You are going to have to try to agree on whether the “citizens’ group” consisted of nine or eleven people. Have a single editor look at the entire report.*

*Unfortunately, the description of the groups’ work and results shows the problems the specialists had communicating with the citizens’ group and even “the professionals”.*

*As described, information from the groups was built into the altered BBN models and presented to “the professionals”, but not to the citizens’ group – a big mistake that shows a lapse in judgement [literally, “lack of assessment ability to evaluate” –trans.] on the part of the project management.*

*The results from several of the meetings were poor because information was not provided far enough in advance of the meetings. For example, the BBN models plus the parameters and assessments used should have been sent to each of the participants for their comments before the meeting, and if, for example, the specialists were in possession of data necessary to understand the results, then the data should have been given to the*

groups as well. The model can presumably also be handled on a home computer of a reasonable size: a copy on CD would be of great interest.

Actually, it is odd that no feedback situation was used in the model with an optimisation as a result.

Against a backdrop of the comments on clean drinking water, the models should also consider what qualities of water are necessary for human intake, toilet flushing, field irrigation, industrial process water, etc.: water quality is much more complex than it appears from the description in the report.

The comments on results also show that it would be advantageous if more of an effort was made to collect the necessary relevant water-quality data before taking drastic decisions about farming contracts, expropriations or the like.

Moreover, one should know the actual crop cultivation in the Havelse area in detail and be ready to make individual contract calculations.

Where several bars appear in diagrams, they should be coloured.

It is correct that BBNs are a good support tool, but the results must be followed by a detailed description of the parameters used and why, plus a description of the results and their consequences. It is much too risky to allow politicians or civil servants to make decisions based on the "naked" data. So one should rather allow citizens to become more involved (farmers are citizens, too).

It is probably correct that, in certain cases, expropriation is the only realistic solution if the pesticide load is to be reduced.

Using a BBN on Havelse Creek flooding is fine, but the section in the report is messy; the stated units for data must be adjusted (the water current cannot be different by a factor of a thousand at stations 19.80 and 52.08). The figures must be labelled correctly and the Danish text should be removed. Additional work is very much necessary: this chapter may be the most important one with respect to the history and future of the entire area. Also, the information in the May 2004 newsletter from Frederiksborg County about temporarily giving up on wetlands should be included in the report.

We very much agree that more data on water quality, water flow and flooding should be collected and processed. Perhaps it would be a good idea to include Copenhagen Energy's existing data on water abstraction, upstream emissions from Hillerød, for example, and precipitation quantities should be included in the model for flooding. The section numbering should be adjusted.

#### ANSWER

The citizens' group have provided many good and constructive comments to chapter 6 which we will try to include in the final chapter, by softening and adjusting some of the conclusions and also changing some of the recommendations in chapter 8 for guidelines.

We agree that the citizens' group in principle should have the same weight when it comes to influence and involvement as the professional group of stakeholders. In stead of the warning in the draft report regarding involving members of the general public, we have decided in stead to recommend as much involvement as possible of general public in order to give input to BBN development formulated in the following way:

"Don't be afraid of actively involving citizens: but be careful to inform and explain properly about the tasks and goals and do always allow feedback and comments on the BBN development process by representing the graphical model and easily understood descriptions and results".

It is not correct that the professional stakeholder group only were presented for a single model without parameter descriptions. What happened was, that 'hand-outs' describing CPT's was distributed and discussed for variables and links at the meeting. The BBN was also briefly presented for the citizens' group on one of their meetings, which resulted in comments to the necessary level of compensation payment. We welcome that the citizens' groups express, that they do understand BBNs, and even ask for a closer communication in the construction phase. We have added a bullet in the list of advantages of BBNs:

- "The citizens' group can understand BBN just fine if it is explained properly by the specialists"

Furthermore, we have added an additional bullet in the recommendations / conclusions about the need for involvement of stakeholders and general public (local citizens) in the BBN development:

- "The results of BBNs must be followed by a detailed description of the parameters used and why, plus a description of the results and their consequences in order to make BBNs as transparent as possible. It is much to risky to allow politicians or civil servants to make decisions based on the 'naked' data. So one should rather allow stakeholders and citizens to become more involved"

To the complain raised by the citizens' group that changes in the BBNs were not presented for the citizens' group I can only feel sorry that the timing in the project wasn't optimal and that the delay related to the ask for financial changes to EU, didn't allow time for a proper involvement of the citizens' group in the development of the final BBNs. I agree, it was a mistake, and it was also a mistake that the information before the meetings in the citizens' group was not sufficient for the group work.

I am glad that the citizens' group asks for access to BBNs so that it is easier to participate in the process (from a home computer via Internet or CD-rom).

We can inform you, that we used 100.000 DKR for extra pesticide analysis of groundwater (pesticides) in the Havelse wellfield capture zone.

Your comments regarding actual crop rotation in details and individual contract calculations are relevant and we agree that BBNs only should be used as a tool in the decision making process (not to take the actual decisions directly from the results of BBNs but rather to take better decision based a better understanding of consequences). Furthermore, it is of critical importance that stakeholders and citizens are involved when BBN's are used.

We have included a footnote in chapter 6 with a link to the comments by the citizens' group. Vi note, that the citizens' group recognises, that expropriation in some cases is the only realistic solution to reduction in pesticide application.

The comments to the flooding case are relevant and will be incorporated in the final report. We won't finalise the BBN for flooding, but the suggestions for further development will be described in the report, so that they can be considered in future projects dealing with this topic and action planning in general.

## **9.7 Re Chapter 7: Data collection for groundwater protection management**

*Shouldn't "clayey till" be "clayey tilth"? What does "esker" mean?*

*It is a good idea to include this section, but it seems a bit thin and quickly prepared when you consider how important the pollution data are in the report as a whole.*

*We would like to hear the reasons why some areas are protected against water abstraction.*

*Someone should proofread the chapter.*

### **ANSWER**

Clayey till is clayey till (in Danish: moræneler). Its ok!

Esker is the English terminology (in Danish: ås). Its ok!

The groundwater pollution data is not included in details, only on a map. The argument for this is that we are dealing with a test of BBNs, which focus on policy, not implementation of groundwater protection zones, thus a more general purpose, aiming to give an overview in stead of giving too many details.

On the other hand, we have decided to extent the description of both existing investigations (both interviews regarding pesticide use and also the voluntarily collected pesticide analysis from groundwater from wells within the area.

For addressing your question regarding protection against groundwater abstraction we refer to Frederiksborg County.

## **9.8 Re Chapter 8: Main conclusions and perspectives in relation to WFD**

*Next time the project group addresses this subject, they must be more aware of the fact that the citizens' group is often much more interested than expected (and much better qualified – in some areas perhaps even better and more broadly orientated out of interest than the specialists). For this reason, the project group should do better preparatory work with better information; the citizens' group does not wish to be put off with cursory information. And it sounds as though the work has led to somewhat of an understanding of this.*

*It is correct that it is best to include interest groups in the BBN model construction phase, but it should be done openly, objectively and from the beginning. Don't keep the citizens' group outside the door because you don't think they understand the topic. Be aware of the fact that the citizens' group is willing to contribute much more volunteer work than you apparently think; you only have to include and engage them. They know that the result of the work will have an impact on their own situation, and the specialists should not forget that many members of the general public are extremely well qualified when it comes to finding information on the Internet. The old specialist world is changing.*

*The citizens' group can understand a BBN just fine if it is explained properly by the specialists.*

*Yes, it is true that BBN models in which no feedback is used have a problem, but that is something that simply can be changed in the model. (See how it was used in the "Limits for Growth" model.)*

*Unfortunately, it is correct that decision-makers and others have a tendency to use the results from models without understanding their background and consequences, which is why models can be dangerous. Just look at how politicians misused or ignored the "Limits for Growth" warnings.*

*Overall, however, we believe that BBN models are necessary tools in many complicated decisions.*

*The project group statements are a good thing, but a few of the essential considerations of making parameter input and the results comprehensible to and useable for decision-makers and the citizens [the Danish phrase can also mean "the general public" or "the citizens' group –trans.] were lacking. Also, it is not only the interest group participants that should be "selected" with care: the participating specialists should be screened as well. It would especially be a good idea if the specialists were to describe the model, background and structure on the basis of their own understanding and not so much on the basis of quotes from references. A little more respect for the citizens [see above –trans.] would be becoming.*

*It is correct that specialists are essential in preparing the BBN models, but it is an absolute necessity that the citizens take part as well – and this is where the project group has to get a handle on the expression of its statements rather than shifting from participation-is-essential to participation-is-not-desirable. There is no doubt that the project group and the report authors need to have one or more critical voices read through the report before it is published.*

*Although the northern-Zealand countryfolk will not come to heel voluntarily, the BBN model does, however, show some of the way and shows a little of what can be achieved and what has not been taken into consideration. For example, what do you do if earnings per hectare from speciality crops exceeds the compensation granted twentyfold?*

*It is interesting to read about Copenhagen Energy's activity plans. We of the citizens' group expect that we will be kept informed, and we hope that the local residents in the affected water abstraction areas will be kept informed through the local press, door-to-door handouts or the like.*

#### **ANSWER**

I think that many of the comments raised by the citizens' group about conclusions in chapter 8 are relevant. Conclusions will be adjusted in order to incorporate comments by the citizens' group in the final report:

- The citizens group ask for a better structured information and wants to take a role as an active player in the process also when it comes to construction of BBNs
- The citizens can understand BBNs, if properly explained
- BBN-models are in general necessary tools for many complicated problems (but they can eventually be misused if results are used uncritical)
- It is important to make parameter input and results understandable for stakeholders and citizens

In addition a footnote has been incorporated in chapter 8 with a link to the comments by the citizens' group.

### **9.9 Re Appendix 1: Economic loss on conversion to pesticide-free crop cultivation in the Havelse abstraction area**

*It is great that the Appendix states that the basic data must illustrate the use of BBN models and not show the actual situation. For this reason, it is also acceptable that all data are based on average figures that do not have their origins in the actual area itself. There is some text missing at the top of page 4. We recommend proofreading.*

*Where crop prices are stated, it is worth noting that they are now DKK 1.10 per kilo. It would also be worth the trouble to adjust to match the changes/pending changes in EU agricultural policies.*

*When reading Tables 1a, 1b and 1c, it would be nice to have a description of what "treatment index" is defined as, and not just have a reference be cited.*

*Where the DB2 in the case of "pesticide-free" cultivation is stated, there is a perfectly good reference to the loss figures, but this is where the chain really falls off the bicycle: when these figures are then subsequently used to illustrate the actual situation of financial loss in the conversion to pesticide-free cultivation in the Havelse wellfield. The beautiful thoughts expressed in the introduction have fallen away.*

*There should be consistency in the numbers used. It is wrong to state in this report figures for losses that would be suffered by crop farmers and cattle farmers if they convert to pesticide-free farming, since the statistics behind these figures are not relevant to the field. Such numbers are always misused by decision-makers, and the article itself is used as a reference (just look at Appendix 2).*

*Setting up the various compensation and contract models is fine, but, for example, the effect on the market value of the property is forgotten, as is the loss of the option of converting from standard crops to speciality crops. Perhaps the changed work situation of the individual farmer should be considered more as well, and the changes in his daily activities when his cultivated area is reduced in size or used for different purposes.*

*The calculation examples are highly theoretical and do not, for example, take into consideration the changed values of the different crops, inflation, etc., which happens in actuality, but, well, it is a purely theoretical chapter.*

*The conclusions about variations between the different farms, their losses and their motivation are very daring and uncertain. It should be rewritten.*

*Farmers' desire to take upon themselves a change in the work they do must also be included in the assessment of farmers' willingness to convert to pesticide-free cultivation.*

*It may sound acceptable that society, Copenhagen Energy or the county buys the properties, but it is a political question whether this land should be converted from private to public-sector ownership.*

*Table 10 must be set up correctly. It is wrong to state exact, seven-digit numbers in the examples shown: the material does not permit that degree of precision. This degree of exactitude will always be taken for the truth. It is frivolous to juggle numbers this way in a certain area and make it look like a solution to an actual situation, since a field investigation would show that farmers are not motivated at all to sign the contracts described under the conditions described.*

*The afterword is fine, but could contain an extra remark that the entire chapter should be considered a theoretical case and has no actual value in relation to the Havelse wellfield situation.*

*By the way, Appendix 1 should be translated into English if it is to be part of the report.*

#### ANSWER

We don't have the required resources in the project to translate Appendix 1 nor to adjust the input. It would have been an advantage if the comments to the appendix had arrived a

bit earlier. It was finalised for nearly a year ago. So we simply have to include the appendix as it is (in Danish) in the final report for the CD.

Comments with relevance for BBNs and the report will be incorporated in the final report (the same will be the case for Appendix 2), and the comments by the citizens' group will also be mentioned in chapter 9.

Most of the comments are welcomed, because they can help the reader to understand why the level of compensation payment has to be so high in order to implement such voluntary agreements.

Since the data used are the official data from Denmark's Statistik we believe that they covers the real world in relation to the work done by Svend Rasmussen in the project.

If GEUS can find the time for it we shall try to translate to English over the summer period, at include Appendix 1 (and 2) in English in the printed version available in August.

## **9.10 Re Appendix 2: Economic analysis of abstraction strategies for groundwater in the Havelse Creek catchment area**

*The introduction to the analysis seems serious, proper and well-considered. It should be proofread.*

*Unfortunately, we note that the analysis makes use of the faulty data in Appendix 2, which means that the "exact" numerical values of the work are irrelevant in practice. However, the estimates could be used in the comments.*

*The remarks on farming contracts and set-aside programmes are fine and the most serious ones in the report, but, as mentioned above, the figures cannot be used in practice.*

*Afforestation is no longer relevant for farmers as an alternative occupation today.*

*The section on economic analysis, with its pricing of environmental effects, is excellent and adds some comments to the report that should be included, with a bit of politics added, in the decision of where the next wellfield should be, but it does not solve the issue of generally ensuring clean drinking water. However, afforestation at Græse Bakkeby sounds like the best solution for locating a new wellfield while establishing a new wellfield. This is a high-lying area as well, and thus one able to avoid pollution by surface water.*

*Appendix 2 should also be translated into English.*

### **ANSWER**

Same answer as for Appendix 1 (regarding translation).

The mentioned afforestation is financed by public sources (state/municipality). The groundwater modelling has shown that it is not feasible to locate the new wellfield in the delineated area for afforestation (risk of saltwater intrusion). This is the reason why

afforestation no longer is a relevant cooperation project between Danish Forest- and Nature Agency and CE.

### **9.11 Re Appendix 3: When citizens are to be involved: From water in the basement to Bayesian networks**

*The issue of how much the general public should be involved in public-sector tasks in which "professionals" and specialists are also involved receives an excellent treatment in this appendix. We are very strong advocates of citizens being involved much more than normally is the case, but such involvement should involve open and adequate information, acceptance of the fact that it takes time to get people to become actively involved, and respect for the fact that citizens can contribute valuable knowledge or evaluations.*

*Thank you for the quote.*

*Appendix 3 should also be translated into English – after proofreading.*

#### ANSWER

Fine comment. We will include it in the new chapter 9 and in the conclusions. Appendix 3 will be translated into English, because we consider this Appendix as an important contribution to the understanding of the Danish case (all contributions regarding the citizens' group e.g. Appendix 3, 4 and chapter 7 will be translated into English). The reason for this is that we want to communicate the results to EU.

### **9.12 Re Appendix 4: Contribution from the Havelse wellfield citizens' group**

*We have no comments: it is our own contribution.*

*We hope that the comments above on the draft report we received will be taken seriously and utilised.*

*We also believe that the project participants may not have been ready until now to set up the right BBN model, and that the values achieved and ideas about the contract model are unsuitable for solving the task at hand. Only with individual agreements will it be possible to ensure clean water.*

*We are very sure that there is a risk that the report will be misused.*

*Allow us also to draw your attention to the fact that citizens with a minimum of schooling might need an explanation of foreign loan words used by "professionals" and specialists, but that the same citizens may still possess a knowledge and understanding that could result in valuable and necessary modifications in the comments and models derived from studies of the trade literature.*

*The citizens' group is interested in learning how much in subsidies the EU has contributed to the Danish MERIT project and who has received these subsidies.*

*We expect to receive feedback on the comments above and information on the use to which they will be put.*

#### ANSWER

Appendix 4 (from the citizens' group) will be translated into English.

In principle we agree that the participants in the project now are ready to develop the correct BBN model or rather, capable of planning the work in doing so including a proper involvement of stakeholders and citizens in the process in structured way for the purpose of developing BBNs (compensation payments).

In reality, it is not simply a deskwork. The final BBNs reflect the feedback from the field, both from citizens and stakeholders.

The steering committee does not understand the comment that there is a risk that the report will be misused.

When it comes to financing then EU has contributed with about the half of the costs, GEUS contribute the another half as an applied research institute (sektorforskningsinstitution). In addition Copenhagen Energy has made a significant contribution for their part both in form of used time for staff persons and also for travel costs for meetings (in EU), and costs for pesticide investigations in groundwater and reporting these data (DKR 100.000).

The contribution from EU was in total 200 K. EURO (1.5 mio DKR).

Hans Jørgen Henriksen  
21 June 2004

### **9.13 References**

GEUS (2004) Svar på kommentarer fra Havelse å borgergruppe. Miljøministeriet. GEUS. 21. Juni 2004 (in Danish).

Empty page