Bornholm
Gotland
Hiiumaa
Rügen
Saaremaa
Åland
Öland

Planning and Management of SUSTAINABLE WATER SUPPLY in the Baltic Sea Islands.

B 7 SUSWAT

Newsletter no. 3 May 2000

Hello again !

In **Newsletter no 1** from February 1999 we introduced you to the B7 SUSWAT project. In **Newsletter no 2** from July 1999 we informed about the 90 pages Status Report on B7 water supply published in June 1999.

In this **Newsletter no 3** we can present one of the landmarks in the B7 SUSWAT project: a report with 6 IDEA CATALOGUES holding 22 articles with ideas for more sustainability in water supply.

Project Status – May 2000.

The 3rd phase of the project started as planned in August 1999. The Steering Group and 2 Sub Groups had meetings in Saaremaa, Estonia, 11-13 August 1999. In beautiful Estonian summer weather 28 experts from all 7 islands had some exhausting, but interesting meetings for two days followed by sight seeing to local water works and tourist sights. Many hours were spent with discussions and exchange of experiences. The coming content of the 6 Idea Catalogues was decided and authors from all islands were chosen.

The EU funding for the EU partners was approved in

(to be continued in page 4.....)

The delegates in the Saaremaa meetings in August 1999.

What is B7 ?

The Baltic Sea Islands - **B7** - are Bornholm (Denmark), Gotland and Öland (Sweden), Hiiumaa and Saaremaa (Estonia), Rügen (Germany) and Åland (autonomous region in Finland).

B7 represents almost 300.000 inhabitants.

What is B7 SUSWAT ?

The B7 SUSWAT project is initiated by the B7 Work Group for Environment.

The B7 SUSWAT project is aiming at better planning and management in water supply in the B7 islands through networking and exchange of ideas and experiences and through demonstration of some of these ideas.

The background is that all B7 islands are depending on local water supply. Sustainable and efficient water supply is needed to keep up employment and develop tourism, and to avoid unwanted limitations in spatial development. In B7 islands problems in water supply often are: *Shortage of water, Pollution of water resource, destruction or threatening of wetlands caused by water extraction and missing integration of water supply planning in the spatial planning process.*

A short version of the Action Plan for the B7 SUSWAT project is shown at the back of this Newsletter.

Who finances B7 SUSWAT?

The costs of the project are almost 600 000 •. The 7 islands contribute with around 200 000 • and EU is co-financing the project with almost 400 000 •, half from the INTERREG IIC programme for the five EU partners and half from the PHARE/ INTERREG programme for the two Estonian partners.

B7 Idea catalogues

The purpose of the catalogues is to present a number of ideas for improved planning and management of water supply, mainly suitable for islands and other typically small regions.

Six idea catalogues have been produced with 22 articles in total. Headlines and main substance are presented in these two pages:

Idea catalogue 1:

Planning of sustainable water supply in islands.

1.1 Model for sustainable water supply plans.
A description of the possible content in a Water Supply Plan for a municipality or for a group of waterworks - with suggestions for headlines for each chapter in such a plan.

1.2 Ideas for public involvement in the planning process.
Dialogues with different stakeholders, individuals and organisations are necessary for a good planning process. Ideas for increased formal or informal dialogues in relation to water supply planning are presented with some examples.

1.3 Integration of water supply in the planning process for a small society.
This article gives ideas for integration of water supply issues in the spatial planning process for a minor society based on experiences from a very small island municipality.

Idea catalogue 2:

Sustainable water resources in islands.

2.1. How to find the best aquifer/resources.
Ideas for description and comparison of different geological and hydro geological methods to locate the best groundwater reservoirs.

2.2 Model for resource estimates.
Presentation of a simple calculation model useful for estimations of the size of groundwater resources in an area. The model is based on simplified assumptions about the hydro geological reality for the area.

2.3 Artificial infiltration of surface water.
In the often very dry summertime water consumption is high in tourist dominated islands. Artificial infiltration of surface water can be one way to maintain water supply of high quality. Successful examples from Öland, Sweden are described.

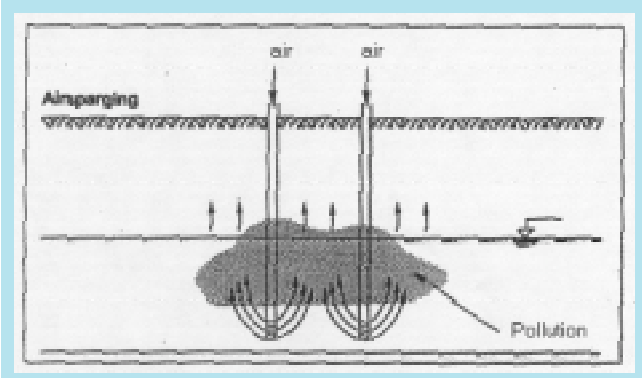
Idea catalogue 3:

Sustainable protection of water resources in islands.

3.1 Threats to water resources and water supply in islands.
A description of some of the threats to ground water resources, to pipelines and to waterworks, and ideas for safeguarding both resources and installations. Risk analysis and actions plans are discussed. An example of risk calculation is given.

3.2 Guidelines for water protection zones.
A presentation of the ground water protection zone system in Rügen, Germany. Calculation and declaration of zones. restrictions in the different zones and experiences from implementation of protection zone rules are presented.

3.3 Monitoring and cleaning up polluted soil.
Description of possible actions against soil pollution that can pose a major threat towards the ground water.
Methods for risk analysis, for cleaning up polluted soil and for monitoring of pollution are presented. Case stories are illustrating the methods



Example of in-situ method - airsparing

3.4 Environmental safe farming.
Agriculture can have a major impact on the quality of the water resources, both ground water and surface water, mainly due to leaching of chemicals: nutrients (N and P) and pesticides from the fields. Problems rise with the intensity of the farming. A great number of “best practices” is presented both regarding reducing nutrients leakage and reductions in usage of pesticides.

3.5 Recommendations for raw water analyses programme.
Knowledge of the water quality is important and the need for information about quality of the “raw” water is growing. Ideas for consideration in relation to water analyses are presented both concerning choice of type of analysis and of content and frequency of the raw water analyses.

Idea catalogue 4:

Dimensioning sustainable water supply systems in islands.

4.1 Water supply capability and peak load dimensioning in tourist areas.
A practical example is presented about how to dimension the water supply systems in an area with massive tourism in a part of the year. The area concerned is a part of the municipality of Borgholm in Öland, Sweden.

4.2 Database systems and systems for mapping.
Different Geographical Information Systems (GIS) are in use in most of the B7 islands. The advantages of such tools in water supply planning and administration is presented and also some ideas to consider before you choose a system.

Island	GIS	Database Software
Bornholm	MicroStation, MapInfo	Vandgraf, GeoEnviron
Gotland	Map.Info	Access,Vabas/DUF
Öland	ArcView	-
Rügen	GeoGIS	Geograt
Aland	ArcView	Wilab LIMS
Saaremaa	-	-
Hiiumaa	-	-

Geographical Information Systems used in the B7 islands in 1999.

4.3 Risk analyses and contingency plans.
This article discusses a number of risks in relation to safe water supply: acidification, eutrofication, chemicals, shortage of water, difficulties with the treatment of the water and problems in the distribution systems. For each of these risks is presented ideas to reduce the risk.

Idea catalogue 5:

Technical solutions in sustainable water supply in islands.

5.1 Small scale water supply and single well water supply.
This article describes the situation in a minor municipality in Hiiumaa, Estonia, and presents a number of considerations to secure pure drinking water in scarcely populated areas.

5.2 Ideas for low-cost water supply.
Establishing sustainable low-cost water supply is very relevant for many regions and islands and especially for regions in the new democracies in Europe. A number of ideas are presented:

- plan for detailed water supply concept for the whole supply area
- simple water treatment procedures
- standardisation of installations
- connection of supply systems
- cost-saving operations of supply systems
- efficient automation systems

5.3 Cleaning processes for drinking water.
Selection of water purification solutions must be based on a number of considerations which are presented in this article, where also 12 different methods for water cleaning are discussed.

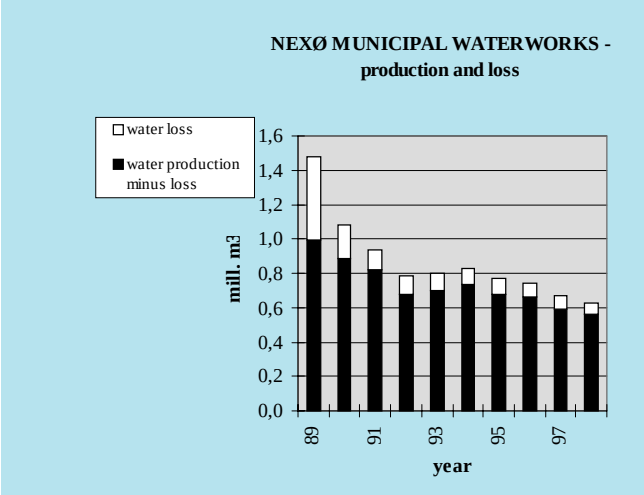
5.4 Renovation of pipelines.
This article discusses in short both the traditional digging method and different “no dig” methods.

Idea catalogue 6:

The consumer in the sustainable water supply system in islands.

6.1 Water savings at consumer level.
This article gives a great number of possible water savings in the bathroom, in the toilet, in the kitchen, in the laundry room, in the garden and elsewhere.

6.2 Sustainable water price policy.
This article gives ideas for water price policies rewarding modest water consumption, both concerning households and industries and suggests water metering and taxes on water consumption aiming at water savings.



Water production and loss from a waterworks in Bornholm, Denmark. Systematic detection and mending of leaks in the pipe system was successfully accomplished in 1989. Water meters at consumer level were installed 1990-94. A national water tax was introduced in 1994.

6.3 Models for organizing sustainable water supply.
A short presentation of different organisation models to consider regarding water supply, mainly

- municipal owned enterprise
- private non-profit water company
- mixed owned non-profit enterprise.

6.4 Copper pipes causing bad quality of wastewater sludge.
In some areas copper pipes in water supply systems can cause problems, mainly if the water has a high calcium and magnesium content. A number of preventative measures are presented and also how to make simple investigations of the problem. Finally the possibilities for substituting copper are discussed and some examples from Gotland, Sweden are

B7 SUSWAT Action Plan

1. TAKE-OFF
A Steering Group is formed and taking action.

2. STATUS REPORT
A report "Planning and management for water supply in B7 - Status 1998" is produced and published.

3. IDEA CATALOGUES
Six idea catalogues are produced by 2 Sub Groups.
The themes for these catalogues are expected to be:

- Planning of sustainable water supply in islands
- Sustainable water resources in islands
- Protection of water resources in islands
- Dimensioning sustainable water supply systems in islands
- Technical solutions in sustainable water supply systems in islands
- The consumer in the water supply systems

4. PILOT PROJECTS
In each island a pilot project is prepared and up-started. These projects will demonstrate some of the most interesting items in the idea-catalogues.
The pilot projects run for 3 month. A local network for each project is established.

5. CONFERENCE
An international 2 days conference is arranged in Rügen. The project, the idea-catalogues and the pilot projects are presented and discussed. Ideas for future co-operation are presented.

6. FINALE
A final report is produced and the continued co-operation about water management and water protection in the Baltic Sea Islands is decided.

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December 1998, but the EU Phare/Interreg funding for the two Estonian partners was still not decided when the Saaremaa meetings took place. But during the meeting a positive fax came from Brussels so a contract could luckily be foreseen. It was therefore decided to postpone the second round of meetings in the Sub Groups for 3 month in waiting for the contract.

In November 1999 most of the contributions to the Idea Catalogues were ready in draft and the chairmen could distribute the drafts to all experts for comments.

The second round of meetings took place in Bornholm 11-13 January 2000. Two chartered plans brought the participants fast (and cheaper than normal fares) to Bornholm and 22 experts were together for 2½ days in the mild winter. During the meeting all authors presented their contributions in the Sub Groups; the discussions gave comments for the final edition of the catalogues. Also the coming phase four – pilot projects – was discussed. Each island presented preliminary suggestions for pilot project in their island, which led to an easy decision and up start of this part of the project.
After these meetings the chairmen have edited the final contributions to the idea catalogues and – as decided at the meeting – Bornholm has collected and published the catalogues in one volume.

It is the hope of the Steering Group that the catalogues will be of major value for the water supply managers and planners both in the B7 islands and in other small regions in Europe.

All B7 SUSWAT reports can be obtained by contacting the editor of this newsletter and it will also be available on the B7 homepage: **ww.b7.org/envir/current.html**.

Do you have QUESTIONS or IDEAS??

If this newsletter gives you inspiration to know more about the project or to give us comments or information, please phone or e-mail to the project co-ordinator or to other Steering Group members.

Newsletter no 4 will be published in September 2000.

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