



LIVING KNOWLEDGE

The International Science Shop Network



**ISSNET PROJECT *IMPROVING SCIENCE SHOP NETWORKING***

**Work Package 4: Transnational Research Co-operation**

# **OPPORTUNITIES AND CHALLENGES FOR TRANSNATIONAL RESEARCH CO-OPERATION**

## **Editors**

Carmen Teodosiu

Søsser Brodersen

Michael Søgaard Jørgensen

**Building partnerships for  
public access to research**

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ISSNET PROJECT: IMPROVING SCIENCE SHOP NETWORKING

*WP4 Transnational Research Co-operation Report*

# OPPORTUNITIES AND CHALLENGES FOR TRANSNATIONAL RESEARCH CO-OPERATION

EDITORS

**Carmen Teodosiu, Søsser Brodersen,  
Michael Søgaard Jørgensen**

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**ECOZONE Publishing House**  
Bd. D. Mangeron 71A, 700050 Iasi, Romania  
Phone: +40 232 271759; Fax: +40 232 271311  
E-mail: mmac@ch.tuiasi.ro

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**Editors: *Carmen Teodosiu, Søsser Brodersen, Michael Søggaard  
Jørgensen***

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## Authors contributing to this report

| <b>Name</b>                                                    | <b>University/Science Shop</b>                                                                                            |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Carmen Teodosiu, George Barjoveanu and Maria Gavrilescu</b> | InterMEDIU Information, Consultancy & ODL Centre, "Gh. Asachi" Technical University of Iasi, Romania                      |
| <b>Michael Sogaard Jørgensen and Søsler Brodersen</b>          | Science Shop DTU, Technical University of Denmark, Lyngby, Denmark                                                        |
| <b>Kirsten von der Heiden and Wolfgang Endler</b>              | Cooperation and Consulting for Environmental Questions (Science Shop kubus), Technical University Berlin, Berlin, Germany |
| <b>Anke Valentin</b>                                           | Wissenschaftsladen Bonn, Bonn, Germany                                                                                    |
| <b>Andrea Gnaiger and Gabriela Schroffenegger</b>              | Institut für gesellschaftswissenschaftliche Forschung, Bildung und Information, Innsbruck, Austria                        |
| <b>Caspar de Bok</b>                                           | Science Shop for Biology, Utrecht University, The Netherlands                                                             |

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# Executive Summary

This report is the outcome of the Workpackage 4 of the EU project: ISSNET (Improving Science Shop Networking), which is a 'Thematic Network' in the 5th Framework Programme of The European Commissions Directorate-General Research. 5 organisations, from Germany, Romania, Austria and Denmark has participated this workpackage.

The objectives of this workpackage relates to the facilitation of transnational research co-operation among Science Shops and development of concepts and procedures for co-operation between the International Science Shop Network *Living Knowledge's* members, on community based research themes that cross borders.

The report considers a series of activities that initially involved co-operation between ISSNET partners on a specific topic (*Sustainable Water Management and Land Use*), as well as international research projects undertaken previously through intermediaries such as Science Shops. The findings of this workpackage are structured under the headings:

- Opportunities for transnational co-operation within the field of sustainable water management and land use
- Dissemination tools and events
- Previous and recent experiences with transnational research co-operation among Science Shops
- Identification of other relevant topics and tools for thematic co-operation

## **Opportunities for transnational co-operation within the field of sustainable water management and land use**

The basis of analysing opportunities for transnational co-operation within the field of sustainable water management and land use (a pilot project) is represented by case studies of 12 Science Shop/transfer organisation projects. The analyses shows that NGOs usually co-operate with all kind of

organisations, e.g. other NGOs, official bodies, universities, Science Shops and Science Shop-like organisations. Some of the NGOs have a lot of international experience (mainly in Denmark and Germany) as partners in different co-operation projects. Almost all the NGOs have recognized the important role of the scientific information in their activity. NGOs also feel the need for an easy access to required information and documentation on environmental issues, and the network development that is envisaged should among other aspects address this issue.

The main activities that scientists carry out in this field of work are related to educational programs, research activities and various thematic projects. The educational programs are designed to provide knowledge and expertise for those interested in environmental problems: students, NGOs, representatives of water work companies, sewage companies as well as policy makers in the field of water management and land use. Scientists usually co-operate with other scientists and researchers in thematic projects. All of the interviewees have international experience due to scientific exchanges, conferences and project participations. Some of the researchers have co-operation with the civil society and some with Science Shops. The interviewed scientists have proposed many other topics relevant for transnational co-operation like: an investigation/project concerning the driving forces behind urban development, or a co-operation in the field of wastewater reuse and minimization of wastewater loads and discharge, or a service page (internet) to search for potential partners.

The governmental institutions represented cover a wide spectrum of responsibilities in the field of water management and land use: water supply, legislation enforcement, regulation controls, planning, consultancy and advocacy, activities of structural modifications of the water bodies. Within their specific activities and responsibilities, governmental institutions co-operate with similar organisations/institutions. Some of them have contact with universities and Science Shops. Network activities have little representation among these institutions; though there are institutions that are part of different networks.

The Science Shops represented are all affiliated to a university, whereas the Transfer organisations represented are independent organisations with both formal and informal relations to a specific university. All the representatives' work within the area of sustainable water management and land use, by mediating projects, carrying out projects and/or conducting educational activities. The Science Shops and Transfer organisations have multiple contacts, connections and co-operations with various organisations, like NGOs, citizens groups, scientists, students, and governmental institutions. Further, all the organisations are members of different types of informal and formal networks.

Several different kinds of existing co-operation and network relations were identified and discussed in this report:

|                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• NGO - NGO relations</li> <li>• NGO - Science Shops relations</li> <li>• NGO - Scientists' relations</li> <li>• NGO – Governmental Institutions relations</li> <li>• Scientists – Scientists</li> <li>• Scientists – Governmental Institutions relations</li> <li>• Science Shop – Science Shop</li> </ul> | <ul style="list-style-type: none"> <li>• Science Shop – Scientists co-operation and networking relations</li> <li>• Science Shops – Governmental Institutions relations</li> <li>• Science Shops – NGO – Scientist – Government Institution relations</li> <li>• Governmental institutions – Governmental Institutions relations</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Research themes which can be the subject of knowledge production and exchange or developed into future co-operation programmes, based on the representatives in this study are as follows. It should however be noted that given the fact that most of the interviewees activate in the environmental field, their input and suggestions, as well as their expectations and interests are related to environmental issues:

*Environmental Theme **within** the areas of Sustainable Water Management and Land Use*

|                                                                                                                                                                                                             |                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Pollution of lakes, streams, rivers and oceans</li><li>• Groundwater pollution</li><li>• Environmental education/ awareness programs</li><li>• Wastewater</li></ul> | <ul style="list-style-type: none"><li>• Soil pollution</li><li>• Rural development</li><li>• Urban planning</li><li>• Nature Protection</li><li>• Environmental aspects in general</li></ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

*Environmental Theme **outside** the area of Sustainable Water Management and Land Use*

|                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Urban planning</li><li>• Air pollution</li><li>• Waste management</li><li>• Integrated prevention and control of pollution</li><li>• Dioxin leakage from incinerators</li><li>• Nuclear power</li><li>• Transport</li><li>• Energy and climate</li></ul> | <ul style="list-style-type: none"><li>• GMO</li><li>• Environmental conditions in communities</li><li>• Cleaner production</li><li>• Environmental impact of human activities</li><li>• Common international Science Shop database</li><li>• Comparative studies of Science Shop projects</li><li>• The relationship between health and environment</li></ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Dissemination tools and events**

Different measures have been applied to disseminate and share knowledge and experiences with target groups. A website for transnational research co-operation has been established, with the purpose to facilitate research and information exchange between ISSNET-WP4 partners, focusing on the WP4 objectives, agenda and actions, materialized by abstracts, articles, interviews, reports, workshops on the theme of the pilot project: *Sustainable Water Management and Land Use*. The website can be seen at: [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm).

The FBI-Centre in Austria organised a network meeting on sustainable water management with the aim of disseminating the results of the case studies and with the focus on existing trans-national research co-operations and expectations.

A WP4 session at the 2<sup>nd</sup> Living Knowledge Conference in Seville, Spain, was held with the aim of: 1) disseminating WP4 research activities and findings, especially related to environmental topics and the WP4 pilot project, 2) presenting papers submitted to the LK conference within the environmental field, and 3) discussing opportunities to enhance research co-operation at transnational level developed on themes requested by community groups.

Another session at the 2<sup>nd</sup> Living Knowledge Conference in Seville, Spain was held focussing on sustainable agriculture and forestry. The aim of the session was to improve the exchange on learning and networking experience, activities and potential in rural areas as well as participatory methods used.

A Symposium in Berlin on Water: “Trading good – weapon – human right” was held with the aim of discussing ways towards sustainable water management with the broader public.

A research co-operation between an EU Research Networks, ACCENT, NGOs and Science Shops has been initiated based on a request from the coordinator of the ACCENT work package on “Integration scientific activities with policy-making and public awareness”. The Science Shop DTU has become member of the Steering Group of this work package. The activities in this co-operation have so far been:

- Survey of air pollution related activities in Science Shops in the Living Knowledge network and among environmental civil society organisations.
- Joint planning of a workshop about the interaction of the ACCENT researchers with policy makers, civil society organisations and the general public: “Are we listening enough?”.

- Dialogue about possible activities in the ACCENT network supporting the interaction with policy makers, civil society organisations and the general public leading to a work plan for next year.
- Initiating research, including a PhD project, based on dialogue and interaction between civil society organisations, ACCENT researchers about strategies for analysis, abatement and prevention of air pollution.

### **Previous and recent experiences with transnational research co-operation among Science Shops**

Four experiences with transnational research co-operation among Science Shops have been analysed with the aim of investigating which kind of support and benefit they perceive as important for future transnational research co-operation.

The benefits of the co-operation mentioned by the participants in the four studies are:

- It was useful, challenging and broaden their perspective in relation to future international co-operation between Science Shops and students
- New potentials of international mediated student co-operation would benefit both the students and the Science Shops position in education
- The NGO got an international perspective on the problem investigated, which participated to broaden the perspectives of the problem
- New knowledge was developed
- New courses and case studies was initiated based on the project experiences
- Very useful for the students in relation to their future career
- Curricular development

The desired support from Science Shops in order to improve transnational co-operation are identified to be:

- Search for national/international project partners
- Access to existent co-operation projects or networks
- Develop in common project proposals on themes requested by community groups

- Exchange information/good operational practices
- Linking topics in one country to another country
- Perceived local problems may be problems experienced in other communities and solutions could be sought together – making clear that local problems may not be as local as perceived
- To bring NGOs together and make them aware that they face the same problems just in different contexts
- Dissemination of existent knowledge at national and international level
- Develop in common educational or training programs

### **Identification of other relevant topics and tools for thematic co-operation**

An Internet research on EU-programmes, funding lines and existing international co-operations and projects has been conducted as a supplement to identify other relevant topics and tools for transnational research co-operation, than identified by the interviewees represented in this study. The internet research covered the 6<sup>th</sup> Framework Programme and the 7<sup>th</sup> Framework Programme. The recommendation of this internet research is that Science Shops should look through the various programmes and programme lines of the EU and search for new “docking stations” for their integrative, cross-discipline and practice-oriented work and to position themselves as competent partners on the project market.



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# 1 Introduction

## 1.1 The ISSNET project

**By Caspar de Bok – *ISSNET project coordinator***

Science Shop for Biology, Utrecht University, The Netherlands

ISSNET (Improving Science Shop Networking) is a 'Thematic Network' in the 5th Framework Programme of The European Commissions Directorate-General Research, under the theme 'Improving Human Potential & Socio-economic Knowledge base', section "Raising Public Awareness of Sciences and Technology". Thirteen organisations, from the Netherlands, Germany, Romania, Austria, United Kingdom, Denmark, Spain, France and the USA, participate in ISSNET.

The activities of ISSNET support the establishment of an international network of Science Shops. The unique demand-driven and bottom-up approach of Science Shops offers citizens an opportunity to access scientific information, knowledge and expertise, thereby providing them a tool to participate in the science and society debate. ISSNET intends to develop collaborative relationships with Science Shop-like institutions and networks inside and outside of Europe.

Key objective of ISSNET is to carry out activities that advance citizens' access to, and use of, scientific information, knowledge and expertise in a demand driven way by Science Shops. ISSNET activities contribute to the start and maintenance of an international Science Shop network 'Living Knowledge'. It is an important component in the implementation of Action 21 of EC's Science & Society Action Plan. ISSNET will improve mechanisms and good practises for public involvement in science and policy related debates by introducing different types of dialogues with community groups on a demand driven basis. Cultural and socio-economic differences throughout Europe do not allow for

only one structure. ISSNET builds on and complements national activities and offers tools on new initiatives of advancing public access to, and use of, science in countries that do not use these type of activities yet. ISSNET creates a network of excellence on community based research with a focus on Europe, called Living Knowledge.

The objectives of ISSNET include improving:

- Public access to scientific information and expertise in a demand and dialogue driven way
- Public understanding of science and technology
- The scientific society's involvement of civil society knowledge and expertise in research
- Collaboration and communication among scientific organisations (universities, Science Shops) and other organisations (citizen groups, regional representatives, NGOs, science museums, etc.)
- Future university graduates' interest in and competence for co-operation with civil society as part of the development of science and technology
- The awareness of scientists and policy makers of research subjects that are of concern to the public

There are 4 work packages distinguished to achieve the objectives of ISSNET:

Work package 1: *Living Knowledge set up and maintenance*

Work package 2: *Living Knowledge magazine*

Work package 3: *Living Knowledge conference*

Work package 4: *Transnational research co-operation*

The work package on research cooperation is reported in this publication. The ISSNET activities on 'Research co-operation' will facilitate subsidiary transnational community based research co-operation.

Given the width of current Science Shop research, sample themes might include: environment, health, minorities, gender issues, labour issues, Central/Eastern Europe, European and international legislation and policy, etc. The Living Knowledge network intends to assist members in assembling ad-

hoc partnerships to undertake transnational research projects based on local or regional requests for research from community groups with a common focus, or to respond to members' ad-hoc requests for knowledge exchange. The necessary mechanisms for advancing such co-operation will presumably include email groups, workshops, structures for finding partners for research co-operation, and various mechanisms for identifying promising co-operative research topics.

## 1.2 An Introduction to the Workpackage on Thematic Research Co-operation (WP 4)

**By Carmen Teodosiu – WP4 coordinator**

InterMEDIU Information, Consultancy & ODL Centre, “Gh. Asachi” Technical University of Iasi, Romania

The Lisbon European Council in 2000 set the strategic goal of transforming the European Union by 2010 *“into the most competitive and dynamic knowledge based society in the world capable of sustainable economic growth with more, better jobs and greater social cohesion”*. In close connection with this goal, the process of creation of the European Research Area (started in January 2000) and specifically the EC Science and Society Action Plan (2002) bring into discussion the need to develop stronger and more harmonious relations between science and society. Although international research co-operation has been one of the major objectives of the European Framework Programmes from their initiation, most of these co-operations were supported by universities and research institutes through fundamental and applied research themes and accompanied by mobility of staff and students. Few examples, only in the last years, may be mentioned for international research co-operation based on themes that are requested by community groups and that include intermediaries such as Science Shops as initiators and involve subsequently researchers, NGO members and students.

This workpackage had as objectives the facilitation of transnational research co-operation among Science Shops and the development of concepts and procedures for co-operation between International Science Shop Network (called *Living Knowledge*) members, on community-based research themes that cross borders.

Linking project partners especially for small organisations with limited financial and networking capacities (as Science Shops and NGOs in most of the cases are) provide different opportunities for the international exchange of

information/good practices, research co-operation or linkages with different groups and networks. Such opportunities are related to:

- Science Shops coordinators involved in a specific project develop university co-operation on curricula and research, and subsequently staff and student exchanges.
- University and non-university Science Shops generate co-operation with non-governmental organisations and make the linkages between them including transfer of information or start-up of project proposals.
- University staff members working with the Science Shops facilitate co-operation of Science Shops and community groups within large research projects (such as FP6 integrated projects or networks of excellence) or develop other transnational research co-operation programs.

The transnational and multidisciplinary dimension of knowledge production and sharing through research co-operation, the facilitation of an organised structure and identification of appropriate topics for thematic co-operation are beneficial not only for the members of the International Science Shop Network, but also for community groups, researchers, funders and policy makers, facilitating thus the public access to science and technology.

The transnational research co-operation dimension has been approached by the WP4 group members who developed a pilot co-operation on *Sustainable Water Management and Land Use*, and through all its activities investigated the research potential and the perspectives and opportunities for such collaborations. By approaching previous or on-going research co-operation of the ISSNET partners, the WP4 group envisaged the development of concepts and strategies that can afterwards promote transnational co-operation on a variety of topics at the level of the *Living Knowledge* network.

An evaluation of relevant topics, as well as of the necessary organisational resources for further transnational research co-operation was done considering research needs/ expertise, facilities of Science Shops and interest of their clients and communities. Subjects such as: health, education and

minorities, women, working conditions, voluntary organisations and legal support can be used for further trans-national research co-operation.

The initiation of transnational research co-operation projects is not an easy task for any organisation, irrespective of its size. However, there are several possibilities to smoothen this process by providing access to the necessary links and information at both national and international level, either for projects realisation or dissemination, or by strengthening the university- society links through the development of common research topics and activities. The usage of appropriate tools (such as the *Living Knowledge* magazine, electronic newsletter and discussion groups can also encourage thematic co-operation by publishing information materials, working papers, emerging research themes in society and calls.

More information on WP4 activities, reports and publications can be found at: [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm)

Apart from other results of the ISSNET project, the WP4 group consider that there is a great potential for transnational research co-operation between community groups, university researchers and Science Shops, potentials that will be materialised in the actual or coming Call for proposals at European level. We just hope that this report can act also as an invitation to future collaborations.

## 2 Transnational Research Cooperation Workpackage: activities overview, working plan and methodology

**By Carmen Teodosiu**

InterMEDIU Information, Consultancy & ODL Centre, "Gh. Asachi" Technical University of Iasi, Romania

### 2.1 Objectives and activities overview

The Workpackage 4 objectives are related to the improvement of international exchange of information and good practices on themes of mutual interest for Science Shops and community groups in different countries. Considering a series of activities that initially involve co-operation between ISSNET partners on a specific topic (*Sustainable Water Management and Land Use*), as well as international research projects undertaken previously through intermediaries such as Science Shops, this workpackage envisages the development of concepts and procedures that can afterwards promote transnational co-operation on a variety of topics at the level of the international Science Shop network.

The main **objectives** of the workpackage are listed below:

- Facilitation of transnational research co-operation on the subject: "Sustainable Water Management and Land Use" (pilot project)
- Dissemination and sharing of knowledge and experiences with target groups, identification of the demands of client groups and opportunities for common projects
- Exchange of information /good practices and cooperation among Science Shops and community groups

- Identification of transnational cooperation opportunities and challenges in terms of funding, organisational and policy issues as analysed by means of previous and on-going projects
- Design and maintenance of the web page on transnational research co-operation, as well as regular communication in this field through discussion groups
- Identification of other topics and tools for transnational research cooperation
- Linkages with other networks and groups and search for opportunities of cooperation.

The cooperation for the Workpackage 4 realization involved the following partners from the ISSNET consortium, both university and non-university based Science Shops:

- **InterMEDIU Information, Consultancy and ODL Department, 'Gh Asachi' Technical University, Iasi, Romania** (ISSNET Partner 4)
- **Science Shop at the Technical University of Denmark, Lyngby, Denmark** (ISSNET Partner 9)
- **kubus (Cooperation Consulting for Environmental Questions), Technical University Berlin, Germany** (ISSNET Partner 13)
- **Institut für gesellschaftswissenschaftliche Forschung, Bildung und Information (Institut FBI), Innsbruck, Austria** (ISSNET Partner 5)
- **Wissenschaftsladen Bonn (WilaBonn), Bonn, Germany** (ISSNET Partner 3, interested in the WP4 group activities).

**The main activities** designed to respond to the objectives listed above were:

1. **Creation of the website of WP4 hosted by ISSNET website** This website [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm) and related links provide information about the group activities, pilot project, publications links, contacts and forum

2. **Establish structure and planning for the environmental pilot project and of the effective exchange activities on the proposed subject;**  
contacts with NGOs interested to participate
3. **Effective co-operation for the pilot, preliminary reporting and assessment of results**
4. **Assessment of thematic transnational co-operation undertaken previously in the science shop context** and of the possibilities to facilitate such thematic programs
5. **Identification of other relevant topics and tools for transnational research co-operation**
6. **Reporting and dissemination, contacts with other national and international networks**

## **2.2 Working plan**

The working plan has considered the following stages for the development of the pilot project on environmental co-operation as well as all the other activities related to the WP4 objectives:

1. A first assessment on the topics was developed by the WP4 partners as part of their existent co-operation with different groups (especially NGOs). This assessment was used as base to establish the pilot project theme.
2. Introduction of the pilot project *Sustainable Water Management and Land Use* by WP4 partners in to community groups, Science Shops, researchers (through national/regional networks, contacts with other projects/working groups, Living Knowledge listserv).
3. Finalization and conduction of a semi-structured interview designed to assess the opportunities and interest for transnational research co-

operation in the subject of the pilot. Information/leaflets on introduction on Science Shops were provided by each of the local partners. Based on this survey, each partner selected the organisations that were considered to further contribute to the pilot. At least 4 representatives of each type of organisations (Science Shops, NGOs, universities, governmental organisations) were interviewed by each partner.

4. Analysis of the interviews has been done by each partner, and a common format was established for the national reports concerning the pilot project results (national reports available on WP4 website).
5. Exchange of a Romanian student who co-operated with the colleagues at the Danish Technical University (Science Shop) and the local groups on existing projects in water management. This exchange took into account a co-operation agreement between Danish Technical University and Technical University of Iasi and was finalized with a report (available on WP4 website).
6. Cross analysis of national reports developed for the pilot project was performed so as to identify the transnational co-operation opportunities and the premises for establishing a knowledge exchange network formed by the organisations and institutions interviewed as part of the WP4 activities.
7. Documentation, exchange of information and communication related to existent projects in Sustainable Water Management and Land Use and identification of further demands of client groups; special attention was given to synergies that may be used to develop common projects and to the tools that may support co-operation.
8. Information for the Living Knowledge network, LK newsletter and LK magazine concerning WP4 activities in general, special events, workshops or conferences organized by the WP4 partners or their networks.

9. Dissemination activities, linkages with other networks/groups at *national* and *international* level in the field of the environmental pilot project. Organisation of a workshop at the 2<sup>nd</sup> Living Knowledge Conference (Seville, Spain, February 2005).
10. Assessment of previous or on-going transnational thematic co-operation undertaken in the Science Shop context and of the possibilities to facilitate such thematic programs (funding, organizational and policy issues). The assessment was based on interviews with participants at such thematic transnational projects and their analysis.
11. Identification of other relevant topics (health, education and minorities, voluntary organizations, legal support, others) and tools for transnational research co-operation.
12. Contributions of the WP4 group at the preliminary and final reports, article writing, participation in ISSNET network and group meetings, and regular communication by e-mail.

### **2.3 Selection of the pilot project theme**

The term sustainable development has become one of the most widely used expressions in the context of economy, environment and development. In order to manage natural resources in a sustainable manner, policy makers, industrial organisations, governmental agencies and the civil society need to be informed, communicate and establish common actions.

There are however problems related to the quantification of sustainable development progress (using sustainable indicators) as well as to the dissemination of existent knowledge at the level of small organisations (such as NGOs or Science Shops) that influence a quick and profitable sharing of valuable experiences as a base for future trans-national cooperation. On the other hand, information sources and information in general do not represent a

major problem anymore, although the common understanding and the proper communication to the public of scientific data related to issues such as: water quality monitoring and management of water resources, land use, impact or risk of industrial activities still need to be improved.

One of the main issues required by the FP6 programs is that effective communication and dissemination of scientific results is to be made more accessible to the communities. That explains also the potential of this subject for further investigation and co-operation.

**The major motivations that contributed to the selection of the pilot project environmental theme: *Sustainable Water Management and Land Use*:**

- All partners in WP4 have mentioned their experience and interest in participation in a pilot project on *Sustainable Water Management and Land Use*. A first assessment conducted by InterMEDIU Department on the topics that have been developed by the WP4 partners as part of their existent co-operation with different groups (especially NGOs) revealed that out of the **31** topics that have been mentioned, **22** come from the **environmental field** (water management, impact of industrial processes, waste recycling, solid waste management, local Agenda 21, participatory and sustainable urban city planning, ecological concepts and eco-management in SMEs, environmental education, etc.).
- Science Shop Bonn was also interested in joining the WP4 group as an associated partner for aspects related to sustainable land use.
- It is a subject that has a good potential for further co-operation between Science Shops with different organisation forms (university or non-university-based) community groups and universities in the international or national context.

- Presents an interesting research component so as to allow participation of students/researchers or in connection to projects developed in the Agenda 21 framework.

## 2.4 Design of interviews for the WP4 activities

In order to assess the opportunities for transnational co-operation in the field of Sustainable Water Management and Land Use (**Activity 3**), all WP4 partners have conducted semi-structures interviews. The interview guide for the semi-structures interviews were proposed by Kirsten von der Heiden from kubus Science Shop, Technical University of Berlin, Germany and modified accordingly to the suggestions of WP4 partners.

### **Box 1. Introductory Interviews ISSNET WP 4 Trans-national research co-operation. *Pilot project: Co-operation on Sustainable Water Management and Land Use***

**Q1.** Are you actively working or doing research on the field of sustainable water management and land use? If so, what is the focus of your work in general.

Q 1.1 I'd like to ask you to specify shortly your actual tasks concerning sustainable water management and land use. Does the development of quality criteria, sustainable development indicators or other activities (such as: monitoring, water & wastewater -treatment, training, educational programs, management) belong to your tasks or even the implementation of those in business and society?

Q 1.2 Do you have project partners working out the subject together with you/ your organisation? Are those partners regional, national or international ones? Please state the type of organisations that you have as partners (NGOs, science shops, universities).

Q 1.3 Is it of interest to you, disseminating and exchanging your expert knowledge and results towards society / citizen and specific actors/stakeholder groups? - What are the means used so far to achieve dissemination and exchange of information with these groups?

- Which opportunities do you see to further improve the knowledge transfers as a bi-directional interaction?

**Q2.** Do you participate in a network, network of excellence, alliance, community organisation, public interest group etc. concerning sustainable water management and land use?

**Q 3.** Do you feel a need for networking concerning sustainable water management and land use or a need to improve existing local, regional, national or international network activities?

**Q 4.** What kind of support do you wish for co-operation on sustainable water management by a EC project, e.g. ISSNET, improving networking on trans-national level?

**Q 5.** Which actors/stakeholder groups are the most important ones for participation in a sustainable water management and land use network?

**Q 6.** Could you envisage your participation in a pilot case of our ISSNET project on transnational co-operation on sustainable water management and land use?

**Q 7.** What are your specific interests for the participation in the pilot project of ISSNET WP 4 (Co-operation of sustainable water management and land use)?

- Use of our national and international networks (exchange information, search for partners, participate in common dissemination events , etc.).

- Use of LK newsletter or LK magazine for inviting and addressing task groups and to exchange knowledge and disseminate results.

- Developing common projects.

**Q 8.** Are there any other topics that you consider suitable for transnational research co-operation? If so, please briefly state them below.

The analysis of the interviews has been performed using a framework that was proposed by Carmen Teodosiu (InterMEDIU Department Technical University of Iasi, Romania) and agreed by the WP4 partners. The number of the questions from the original interviews has been placed in brackets.

## **Box 2. Framework for Analysis of Introductory interviews**

1. Organization details (name, e-mail, web address, id number).
2. Work of the organization on sustainable water management (subjects listed and interview results summarized). (Q1.1) for instance:
  - Water quality (parameters) (id 1)
  - Wastewater monitoring (id 2, and id 3)
  - Educational programs (id 1, 3,4), etc....
3. Partners with whom they co-operate (Q1.2)
  - National
  - International
  - Type of organizations.
4. Existent networks (with id members, website addresses) (Q2)
5. Need for networking. (Q<sub>3</sub>). Discussion if special issues appear
6. Interest and support for sharing and disseminating knowledge).(Q1.3, Q4)
7. Interest in participating to the pilot /specific objectives.(Q6, Q7)
8. Other topics for transnational co-operation. (Q8)

**The assessment of previous or on-going co-operations** undertaken in the Science Shop context (**Activity 4**) was based on the following assumptions:

- 4 international projects (case studies) of Science Shop co-operation was to be assessed based on preliminary questions (*interview activity 4*) addressed by e-mail, previous interviews from the pilot project (national cases) and phone interviews.
- Two interviewees, one from each country were selected for each case study in order to get an wider perspective on the respective cases than only one interviewee can highlight
- The interviewees were selected from the Science Shop staff members, since the major interest was directed to the possibilities to enhance thematic co-operation through these organisations at the LK network level.

- The case studies discussed were: the ZeroM project (interviews performed by kubus, Germany), The Netherlands-Northern Ireland cooperation (interviews performed by DTU, Denmark) and The Netherlands–Romanian cooperation and the UK- USA co-operation (all these 4 interviews were performed by Intermediu TU Iasi, Romania).

The interview structure for Activity 4 was proposed by Carmen Teodosiu (InterMEDIU Department Technical University of Iasi, Romania) and agreed by the WP4 partners, the questions being presented below.

### **Box 3. Interview questionnaire WP4 ISSNET – Activity 4**

**Interviewee name and contact details; his/her position in the organisation that initiated/took part in the research co-operation project**

**Questions:**

1. Please list the aim and the topic/s of the international co-operation project .... (if more than 1, please list all)
  2. Please describe the type of organisations involved in this project
    - 2.1. Research;
    - 2.2. NGO's;
    - 2.3. Intermediary- Science Shops;
    - 2.4. Governmental/administration;
    - 2.5. Enterprises.
- Please provide, if possible, details on these organisations (short presentations, contact details or website, etc.)
3. How many participants were involved in this project (researchers, Science Shop staff, students, from other organisations....), **directly** and **indirectly**?
  4. Describe the activities of the project.
  5. In case of a research project, which were the main research questions?
  6. What were the methods that have been used?
    - 6.1. Literature study/bibliographic research
    - 6.2. Laboratory research
    - 6.3. Collection of experimental data, monitoring

- 6.4. Interviews, questionnaires
  - 6.5. Case studies evidence
  - 6.6. Planning, management and administrative work
  - 6.7. Training, education
  - 6.8. Implementation of recommended planning results
  - 6.9. Sharing experiences
  - 6.10. Others (please specify..)
7. What were the major results and recommendations, and how have these results been applied in the activities of the involved partners? (dissemination, public reports, publications, press release, presentations etc.)
8. How was the project initiated? And how were the aim and the methodology of the project developed?
9. What were the specific interests and expectations of the organisation that you represent in this project?
10. What type of transnational co-operation does this project envisages?
- 10.1. Co-operation between Science Shops with involvement of students/without involvement of students
  - 10.2. Co-operation between Science Shops with involvement of university staff (researchers)/without involvement of university staff (researchers)
  - 10.3. Co-operation between Science Shops and NGOs
  - 10.4. Co-operation between Science Shops and SMEs
  - 10.5. Co-operation between Science Shops, universities and other governmental/nongovernmental bodies
  - 10.6. Other type of co-operation – Please specify especially if representatives of other networks are involved
11. What was the budget for the project? Was any co-funding necessary and if so why?
12. What was the time frame used for the project? Is the project completed or still running?
13. What type of communication was use for information exchange and co-operation?
- 13.1. meetings, workshops
  - 13.2. e-mail/ discussion groups
  - 13.3. phone

13.4. lectures/training, speeches

13.5. other, please specify

14. Which were the main problems related to the project realisation? Please specify in detail those that you consider the most important

14.1. organisational (i.e. planning of the project, methodology, experience of participants, necessity for other partners involvement, relationships between participants, etc.)

14.2. time frame

14.3. communication

14.4. dissemination/ presentation and publication of results

14.5. others... please specify

15. To what extent the project fulfilled the original objectives of your organisation and that of the client group (NGO, SME, associations)?

16. Please state briefly what could be the long terms benefits of this co-operation for each of the partners involved:

- Science Shops
- NGOs
- universities
- governmental organisations
- other groups

17. Which would be, on your opinion, the desired support that science shops (as intermediaries) could provide so as to improve transnational co-operation between NGOs, researchers, Science Shops etc?

- Search for national / international project partners
- Access to existent co-operation projects or networks
- Develop in common project proposals on themes requested by community groups
- Exchange information/good operational practices
- Develop in common educational or training programs
- Dissemination of existent knowledge at national and international level
- Acquisition of funding
- Others: please specify

18. Can you please let us know which could be the benefits of taking part in a thematic research co-operation network (as that proposed by ISSNET through its pilot project?)

- development and acquisition of new projects
- capacity building/ development of organisation
- others... please specify.

**Thank you very much for answering our questionnaire.**

The structure for analysing the interviews for Activity 4 was proposed by Søsner Brodersen (Science Shop Technical University of Denmark, Lyngby, Denmark) and agreed by the WP4 partners.

#### **Box 4. – Structure for analysis of interviews- Activity 4**

- Title of the project
  - Title, name of researcher/student carrying out the project, year, Science Shops involved
- Project participants (directly and indirectly involved)
- Summary of the project
  - Project initiation, Aim, research question, methodology used, project activities, conclusion, budget, timeframe, communication
- Reflections on the project process
  - Fulfilment of interest and expectation of the participants
  - Type of transnational co-operation envisages
  - Problems experienced
  - Benefits of the co-operation for the partners
- Desired support from Science Shops to improve transnational co-operation
- Benefits of taking part in a thematic research co-operation network



# 3 Opportunities for transnational co-operation within the field of sustainable water management and land use

## 3.1 Introduction

### By Carmen Teodosiu

InterMEDIU Information, Consultancy & ODL Centre, "Gh. Asachi" Technical University of Iasi, Romania

In order to assess the opportunities for transnational co-operation in the field of *Sustainable Water Management and Land Use*, all WP4 partners have used the semi-structured interview guide described in Chapter 2.4 (Box 1). The interview was focused on the following issues:

- The specific topics (e.g. monitoring, water and wastewater treatment, training, educational programs, management, etc.) and documentary evidences in the field of *Sustainable Water Management and Land Use* of different organisation with whom Science Shops co-operate at local, regional and national level;
- The type of partners with whom the interviewees usually works with;
- The specific interest for dissemination and exchange of information at the organisational level, including their participation in networks, community organisations;
- The type of support (included details on the important stakeholders) envisaged by individual groups so as to develop transnational thematic co-operation as well as other topics that could support it;
- The specific interest of the groups to participate in the ISSNET WP4 pilot project and further on, to the development of the LK network and of common projects.

The target groups considered in the national contexts for the conduction of interviews, expressing interest for the pilot project, were: *governmental*

organisations, NGO's, university staff (researchers) and Science Shops. Details are presented in Table 1 (Teodosiu et al., 2005).

The analysis of the interviews has been performed using a framework described also in Chapter 2.4 (Box 2) and based on the analysis of the interviews each partner wrote its National Report (the full content of the national reports can be downloaded from [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm) (section Publications). This analysis is based upon the major categories of questions addressed by the interviews and helps to identify the following:

- Selection of partner groups interested in facilitating communication and co-operation on the established subject;
- Disseminate and exchange of existent knowledge (at different levels, i.e. Science Shops, civil society groups, students) and identification of other demands of client groups related to the pilot project subject;
- Generate international projects by linking project partners;
- Identify additional topics for future transnational co-operation.

**Table 1. Involvement in the pilot project: Interviewers and respondents**

| <i>Interviews taken by</i>                                       | <i>InterMEDIU<br/>TU Iasi<br/>Romania</i> | <i>Science<br/>Shop DTU<br/>Denmark</i> | <i>kubus and<br/>WilaBonn<br/>Germany</i> | <i>FBI<br/>Austria</i> |
|------------------------------------------------------------------|-------------------------------------------|-----------------------------------------|-------------------------------------------|------------------------|
| <b>NGO's</b>                                                     | 4                                         | 5                                       | 3                                         | 1                      |
| <b>Governmental organisations, administration, policy-makers</b> | 4                                         | 4                                       | 3                                         | 2                      |
| <b>University staff, researchers</b>                             | 4                                         | 4                                       | 5                                         | 1                      |
| <b>Science Shops, transfer organisations</b>                     | 4                                         | 2                                       | 6                                         | -                      |
| <b>Others</b>                                                    | -                                         | -                                       | -                                         | 1 (private company)    |
| <b>Other potential partners</b>                                  | -                                         | -                                       | 12                                        | -                      |

The summaries of these reports are presented below, while a more in depth overview of co-operation possibilities is presented in the cross analysis that

considers co-operation as seen from the perspective of NGOs, universities, Science Shops and governmental organisations in the different countries participating in the pilot project (Chapter 3.3).

## **3.2 Analysis of national interviews for the pilot project**

### **3.2.1 Austrian Report Summary**

**By Andrea Gnaiger and Gabriela Schroffenegger**

Institut für gesellschaftswissenschaftliche Forschung, Bildung und Information (Institut FBI), Innsbruck, Austria

To find out more about existing co-operations and expectations semi-structured interviews with representatives of five Austrian entities - very diverse in size, organisational form and function - have been conducted in June 2004. For the face-to-face interviews, lasting between one to two hours, an interview schedule developed by the WP4 team was used.

The interview partners were as follows:

- A representative of the “Water-watch Tyrol” (Wasserwacht Tirol),
- A representative of the Division of Limnology, University of Innsbruck,
- A representative of the “Advocacy on Environmental Issues” (Amt der Tiroler Landesregierung, Tiroler Landesumweltanwaltschaft),
- A representative of the “Association of applied Limnology (“ARGE Limnologie” - Gesellschaft für angewandte Gewässerökologie), limited company,
- A representative of the HBLA Kempten (Höhere Bundeslehranstalt für Land- und Ernährungswirtschaft).

All interview partners were very experienced within the area of sustainable water management and in a concerted action each one has its specific contribution to preserving or improving the ecological function of aquatic systems in general and world-wide.

The NGO *“Water watch Tyrol”* is focusing on monitoring lakes, rivers and streams. The *ARGE Limnology* is aiming at preserving or improving the ecological function of aquatic systems. The students at the *HBLA Kematen* did a two years project on sustainable water management in the village of Kematen called *“moving water”*. The *Advocacy on Environmental Issues* focus on an ecological compatible development of the nature and the landscape in Tyrol and in case of court proceedings concerning water issues pleads for the interests of nature. The *Division of Limnology* at the University of Innsbruck is at the moment preparing a project application on sustainable water management in mountain lakes and is furthermore involved in national and international projects. All of them mentioned either the dialogue / the co-operation with citizen groups, communities, NGO’s and/or governmental agencies as an important element in their work.

Three out of five interview partners offered educational programmes and training courses, the University department and the school for its students and the *“Water-watch”* for staff members.

Asked about their existing co-operations on regional/national and/or international level different grades of involvement became visible. The *Advocacy of Environmental Issues* is at the moment not involved in any projects but used to co-operate with the local NGO’s and the University. The *“Water-watch* has extensive co-operations on a local and regional level with NGOs and governmental agencies but no contacts to the University. The representative of the *ARGE Limnology* mentions, that their co-operations are very divers, depending on the projects they are working on or the topics they are interested in. They have intense co-operations on a regional and national level, on an international level their contacts are limited to several scientists. The School has co-operations on the regional and international level as well as the division of *Limnology*. With the exception of the division of *limnology*, which of course has an extensive scientific network, networks seem to play a minor role. Asked for further needs for networking some interview partners expressed a wish to strengthen networking on a local and regional level. This

wish led to the organisation of a network meeting, which was well attended and highly appreciated by the interview partners and further participant.

All interviewees were interested in sharing and disseminating knowledge. Whereas most of them mentioned, that they were already disseminating knowledge on the topic. Asked for opportunities they see to further improve the knowledge transfer as a bi-directional interaction the interview partners mentioned the agenda 21 which in fact comprises all topics and involves for example grass route organisations or to strengthen participatory processes and to take into consideration the knowledge of the lay people.

In general all persons interviewed could envisage their participation in a pilot case of the ISSNET project on trans-national co-operation on sustainable water management. Two persons came up with arguments limiting their involvement in a potential future co-operation, which are: restricted resources, limited information but also missing experience in co-operating with a Science Shop.

Asked for the kind of support they would expect from ISSNET all interviewees would mainly expect to get information on the topics they are working on and are interested in and on how certain problems are dealt with in other states of the European community.

For all of them the magazine and the newsletter would be of use. They would further expect, that the topics "participatory processes", "participation of NGOs", "citizen participation" are promoted and furthered.

The interviewees did not suggest specific topics for transnational co-operations, they were more interested in structures, processes and general matters.

### 3.2.2 Danish Report Summary

**By Søsner Brodersen & Michael Søgaard Jørgensen**

Science Shop DTU, the Technical University of Denmark, Lyngby – Denmark

This chapter summaries<sup>1</sup> the Danish findings in relation to needs and possibilities of future transnational research co-operation seen from four perspectives, e.g. environmental NGOs, university scientists, government officials and Science Shops, all working within the field of sustainable water management and land use.

#### 3.2.2.1 *The NGO perspective*

Four Danish Environmental NGOs participated in the study: The Danish Society for the Conservation of Nature (DN), The Ecological Council (EC), Greenpeace DK and NOAH – Friends of the Earth Denmark. Below is a brief presentation of the four environmental NGOs:

- **DN** was established in 1911. Today the organisation has 50 paid staff members and around 140,000 members.
- **The Ecological Council** was established in 1991. The organisation has no permanent employees, but 8 persons are hired on project funds. The organisation has around 1,100 members.
- **Greenpeace** was established in 1971 in Canada, as a protest against the American nuclear bomb blasting in Alaska. The organisation opened its office in Denmark in 1980. Greenpeace Denmark is part of Greenpeace Nordic, together with Sweden, Finland and Norway. Greenpeace Nordic has around 90.000 members and 30 paid staff.
- **NOAH** was established during the 1960ties, as an academic environmental movement. The organisation is based on voluntary work, they have no regular paid staff, however they are occasionally

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<sup>1</sup> A more in-depth description of findings and conclusions are to be read in *Brodersen & Jørgensen (2004): Analysis of the Danish Interviews for the pilot project: Sustainable Water Management and Land Use.*

able to hire some of their activists on project funding. The organisation has 1.500 members in Denmark.

The four environmental NGOs are involved in different projects and address different topics within the fields of sustainable water management and land use. The table below highlights the NGOs activities within this field of work:

| Topic /project                                                          | How is the problem addressed                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oil pollution in the Baltic (Greenpeace)                                | <ul style="list-style-type: none"> <li>• Local event against a large steelwork company</li> <li>• Addressing the problem in international committees</li> </ul>                                                                                                       |
| Ground water pollution – the use of pesticides (the Ecological Council) | <ul style="list-style-type: none"> <li>• Involved in EU policy making on chemicals</li> </ul>                                                                                                                                                                         |
| Land use (NOAH)                                                         | <ul style="list-style-type: none"> <li>• Part of international campaign</li> <li>• Contributed to EU agriculture policy making</li> </ul>                                                                                                                             |
| Environmental Space (NOAH)                                              | <ul style="list-style-type: none"> <li>• Part of international campaign</li> <li>• Contributed to national environmental policy</li> </ul>                                                                                                                            |
| Capacity building (DN)                                                  | <ul style="list-style-type: none"> <li>• Building up capacity and networks among community groups in trans-boundary areas of Kaliningrad</li> <li>• Background idea: Environmental protection has to include social and cultural aspects to be sustainable</li> </ul> |

The four Danish NGOs are to a large extent involved in different kind of both national and international co-operations and networks, however these co-operations and networks are primarily among the NGOs themselves and to a lesser extent involving scientists or research institutions.

Danish NGOs choose to involve themselves in networks or co-operations with other NGOs, because it makes their arguments stand stronger in the political debate, and because it is beneficial for them to have a forum where they can exchange knowledge and ideas.

The interviews with the NGO representatives show that it is rare the NGOs involve scientists or research institutions in their projects or when they seek new knowledge. Only one example of a network between NGOs and scientists

was mentioned, e.g. a network called the Eco-group. When the NGOs feel they need knowledge they rely on personal contacts, informal networks and their board members, which in many cases are scientists.

Nevertheless three of the NGOs (DN, NOAH, and the Ecological Council) feel that a network between scientists, Science Shops and NGOs could be very beneficial to them, because statements from such a network would create legitimacy around their arguments, when they argue with politicians or private companies. Such a network would also make the NGOs feel that their work is taken seriously by the scientific structures. One of the NGOs (Greenpeace) however does not think such a network would be of benefit for them, partly because they as a large organisation have access and resources to conduct their own researches with the right focus and partly because co-operations with scientists always ends up with very scientific reports, which are too scientific to be used in the media.

The NGOs mentioned some barriers which have to be overcome if a network between scientists, Science Shops and NGOs are to be a success: 1) The NGOs feel that scientists often are afraid of making political statements, unless they are 100 percent sure of their statement, and as one of the representatives expressed, "when dealing with environmental issues, it is not only a question of scientific evidence, it is a belief and an ideology". 2) The NGOs have little time or resources to participate or maintain a formal network between scientists, Science Shops and NGOs. As one of the interviewees expressed it: "it is not the networks that are lacking, but time to participate in the networks". Many Danish NGOs are part of national and international networks of NGOs, and therefore they do not feel an urgent need for more networks. The organisations normally know whom to contact if they need information or want to share knowledge and ideas with other countries. 3) In organisations based on voluntary work, like in NOAH, it is difficult to set up fixed structures for network and co-operation. In these organisations networking relies on personal contacts.

None of the four NGOs feel a need for transnational co-operation or network between scientists, Science Shops or NGOs; they all know they can contact the Science Shops at the universities if they feel a need for knowledge, which they can not find through their own formal or informal networks. However three of the NGOs (DN, the Ecological Council and NOAH) are interested in participating in a pilot project between NGOs, scientists and Science Shops, as long as they can see a benefit for them to participate. Greenpeace on the other hand is not interested in participating in a pilot project; they feel their needs for co-operation and knowledge are covered through their own international network.

### 3.2.2.2 *The Scientist Perspective*

Three University Departments from two different universities participated in this study:

- Roskilde University, the Department of Environment, Technology and Social Studies (Tek-Sam)
- Technical University of Denmark, Environment and Resources (E&R)
- Technical University of Denmark, Department of Civil Engineering (BYG DTU)

The scientists have been and are involved in different projects and address different topics within the field of sustainable water management and land use. The table below highlights the scientists' activities within this field of work:

| <b>Topic/ project</b>                                                | <b>How was the problem addressed</b>                                                                                                                                                                                                  |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sewage in the open land (E&R DTU)                                    | <ul style="list-style-type: none"> <li>• Developing a guide (web tool) over sewage technologies to be implemented in the open land</li> <li>• Dialogue workshops with citizens</li> <li>• Co-operation with citizen groups</li> </ul> |
| Water Management – urban supply and waste disposal systems (BYG DTU) | <ul style="list-style-type: none"> <li>• Explore new forms for urban water supply and waste water handling</li> <li>• Dialogue and co-operation with intermediaries</li> </ul>                                                        |
| Sustainability, Land use and transport (BYG DTU)                     | <ul style="list-style-type: none"> <li>• Scenario workshop</li> </ul>                                                                                                                                                                 |

|                                                                                                                                                    |                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Transdisciplinary skills among Danish candidates working within the field of environmental management in developing countries (Tek-Sam RUC)</p> | <ul style="list-style-type: none"> <li>• Development of new environmental courses at Danish universities</li> <li>• Development of fields courses</li> <li>• Program for Danish students to conduct research in developing countries</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The interviews made with the scientists indicate that co-operation between scientists develops through already existing informal or formal networks, and such networks between scientists develop through co-operation.

The scientists mentioned several reasons why they have found it important to co-operate with NGOs in their projects: 1) NGOs are involved because it can help the students understand how environmental issues are debated in the public, 2) NGOs or citizens groups can function as case studies in the scientists' research, 3) NGOs are involved because the scientists themselves are active in the NGOs movement.

Another interesting point which one of the interviewee pointed out, was that co-operation with students can open up for or continue research areas, which are not prioritised by the university. This was the case when research within the area of urban planning was given a low priority at DTU.

The interviews made with the scientists show that they mainly are involved in networks consisting of other scientists, nevertheless they do not feel more networks between scientists/scientists or scientists/NGOs are needed. They feel that there already exist a lot of networks. They are however all interested in participating in a pilot project concerning transnational research co-operation, although their participation depends on the topic, funding and time required.

### 3.2.2.3 *The Government Official Perspective*

Four governmental institutions participated in this study:

- Roskilde County, the Department for Water Management
- Copenhagen Energy, the Water Department

- Hvidovre Municipality, the Environmental Department
- Hvidovre Municipality, the Water Works company

| Topic/ project                                                       | Authorities/responsibilities                                                                                                                                                                              |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legislation of sewage disposal (Roskilde County)                     | <ul style="list-style-type: none"> <li>• The Country sets out guidelines and requirements to be complied by the municipalities</li> </ul>                                                                 |
| Water Supply in Copenhagen (Copenhagen Energy)                       | <ul style="list-style-type: none"> <li>• Within the borders of Copenhagen they are acting as a authority</li> <li>• Outside the borders of Copenhagen they are acting as a water works company</li> </ul> |
| Water supply in the municipality of Hvidovre (Hvidovre municipality) | <ul style="list-style-type: none"> <li>• Responsible for the water supply in the municipality</li> <li>• Prevention measures and initiatives in order to avoid ground water pollution</li> </ul>          |

The interviews with the four government officials show different kind of co-operation and network relationships. Two of the interviewees explained that their co-operation with scientists was initiated through informal networks, where the government officials knew the scientists from other contexts. The interviews also show that government officials in some cases co-operate with students, e.g. the students are conducting investigations in co-operation with governmental institutions as part of their curricula.

The interviews also show different co-operation relationships between governmental institutions and civil society. One of the interviewees explained that they have co-operation with NGOs and interest groups because they have realised that dialogue and co-operation can prevent getting too many complains to the County. Another of the interviewees explained that the politicians in the municipality feel it is important to hear the voice of the NGOs, so they have formed a formal forum to meet with the NGOs.

Relationships and co-operation between water works companies and citizens/NGOs also exist. The representative from the water supply in Copenhagen explained that they have realised during the last years that co-operation with citizens and NGOs is needed if they want to prevent pollution of the water resources.

### 3.2.2.4 The Science Shop Perspective

Two Science Shops participated in this study; the Science Shop DTU (Technical University of Denmark) and the Science Shop KU (Copenhagen University). It is however only the Science Shop DTU that has experiences within the field of sustainable water management and land use. The Science Shop KU was chosen as a representative even though they only address topics within Law and Social Science, because they had some ideas, experiences and expectations to future transnational research co-operation.

Within the last seven years the Science Shop DTU has been involved in the following projects concerning water management and land use:

| <b>Topics/projects within <u>water management</u></b>                | <b>Requested by</b>                                                                                                                                                                               |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A root zone plant                                                    | This project was carried out as part of a co-operation between two departments at DTU and the Science Shop, which also included seminars for researchers, students, NGOs and government officials |
| Sewage disposal in a local community                                 | A local community                                                                                                                                                                                 |
| An investigation of a sewage treatment plant                         | A local community                                                                                                                                                                                 |
| Lake restoring through the use of Terra Biosa                        | A local citizen group                                                                                                                                                                             |
| Rehabilitation of a lake                                             | The Danish Ornithological Council                                                                                                                                                                 |
| Managing sewage in the open land                                     | A local community                                                                                                                                                                                 |
| <b>Topics/projects within <u>land use</u></b>                        | <b>Requested by</b>                                                                                                                                                                               |
| Organic cotton production in developing countries                    | Fair Trade in Denmark                                                                                                                                                                             |
| Organic sugar production in Denmark                                  | NOAH                                                                                                                                                                                              |
| Environmental space                                                  | NOAH                                                                                                                                                                                              |
| Organic rice production in developing countries                      | Fair Trade in Denmark                                                                                                                                                                             |
| Brinkholm – a study of sustainability and change within organic food | NOAH                                                                                                                                                                                              |

Most of the projects carried out through the Science Shops at KU and DTU are carried out by students supervised by a scientist at the university.

However some of the projects through the Science Shop DTU involve scientists as more than supervisors, in these cases the scientists link the Science Shop project to their existing research.

Throughout a Science Shop project co-operation the Science Shop DTU follows the process closely and has close contact to the client, the students and the supervisor in order to ensure knowledge transfer and exchange.

Experiences from the Science Shop DTU show that relations between the Science Shop and a scientist in most cases continue after a specific project has ended, e.g. the contact and the co-operation relationship continues among the scientist and the Science Shop in other projects.

The Science Shop KU is not involved in identifying supervisors for the Science Shop projects; the only co-operation that exists among the Science Shop and the scientists is that the scientists are to approve the requests before they can be launched through the Science Shop KU.

The clients of the Science Shops DTU and KU can be divided into the following categories:

- Citizens or community groups, including employees
- NGOs

Characteristic for the Science Shop DTU is that a long-term co-operation relationship in most cases is developed with the NGOs, whereas citizen or community groups mainly are based on a short-term relationship through a single project co-operation.

The Science Shop KU co-operates also with governmental institutions and private companies, and takes in project proposals from them.

The Science Shops KU and DTU are part of several networks. One of the networks is a network between the three Science Shops at Zealand; e.g. at Roskilde University, Copenhagen University and The Technical University of

Denmark. Another network the Science Shops are members of is the international Living Knowledge Network of Science Shops.

The Science Shop DTU has further established a national network initiated through the INTERACTS scenario workshop. This network consists of representatives from university management, university scientists, students, Science Shops and NGOs.

### *3.2.2.5 Suggestions to transnational research co-operation*

The following topics were mentioned by the four groups participating in this study:

- Dioxin leakage from incinerators – Raise debate around alternative waste disposal methods/approaches, and raise awareness about the need of waste reduction [NOAH].
- Nuclear power – an important issue since many of the new East European countries needs to make a stand in this discussion [NOAH]
- GMO [NOAH and Science Shop DTU].
- Transport [NOAH].
- A research co-operation around the topic of decreasing exports and imports of agriculture crops – the principles of subsidiarity [NOAH]
- Pesticides and ground water pollution [Greenpeace].
- Energy and climate [Greenpeace].
- Develop annual review reports containing research results within the field of sustainable development [DN].
- An investigation/project concerning the driving forces behind urban development in order to get an understanding of how urban areas develop and the mechanisms behind how planning is implemented [BYG DTU].
- A study investigating why people do not get involved in urban planning. This may only be a project relevant for Denmark. Denmark has a planning law that demands public involvement in urban planning, but the researchers do not think the public is interested or concerned with the future of their city [BYG DTU].

- An investigation of people’s perception of water and the importance of water among ordinary citizens [BYG DTU].
- A study of the partnerships between farmers and water works companies in groundwater protection [BYG DTU].
- Setting up procedures for how to search for or take contact to other Science Shops when new requests are made from clients, in order to ensure knowledge sharing and knowledge exchange among Science Shops and clients. The procedures could among other things include [Science Shop DTU]:
  - that all Science Shops homepages are accessible in English (project abstracts available in English)
  - a common international Science Shop database
  - linking the Science Shop databases to the google search function
  - make the projects available through the university department libraries
- It could be interesting to make comparative studies of Science Shop projects in relation to societal impact and sustainability as an element in research the contribution of NGOs to societal discourses and influence [Science Shop DTU].
- Comparative studies of organic food projects in order to analyse the impact of different country strategies [Science Shop DTU].

### **3.2.3 German Report Summary**

**By Kirsten von der Heiden and Wolfgang Endler**

kubus (The Cooperation Consulting Centre for Environmental Questions)  
 Technical University Berlin, Germany

The following table summarises the fields of the transnational theme “sustainable water management” the interviewed German organisations work on:

| <b>Topics addressed in the field of Sustainable Water Management and Land Use<br/>– German interview results</b>                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Governmental organisations, administration, policy-makers:</b> <ul style="list-style-type: none"> <li>- Water quality monitoring</li> <li>- Water framework Directive Implementation at state level</li> <li>- Berlin surface waters management (supply, use, licenses, traffic)</li> <li>- Joint research project on river basin management</li> </ul> |
| <b>NGOs:</b> <ul style="list-style-type: none"> <li>- Involvement of society in water management</li> <li>- Protection of surface waters</li> <li>- Environmental education</li> <li>- Consultancy of river development</li> <li>- - Local Agenda 21</li> </ul>                                                                                            |
| <b>University staff, Researchers:</b> <ul style="list-style-type: none"> <li>- Interdisciplinary co-operation development - Water shortage forecasting</li> <li>- Flood prevention and management (for WFD Implementation)</li> </ul>                                                                                                                      |
| <b>Science Shops:</b> <ul style="list-style-type: none"> <li>- Water management and technological development</li> <li>- Environmental consultancy</li> <li>- Water analysis</li> </ul>                                                                                                                                                                    |

### 3.2.3.1 *The administration officers´ and politicians´ perspective*

The following summary analyses the current networks of the German ISSNET WP4 interviewees, representing administration officers and politicians and their potentials for as well as demands on transnational co-operation.

#### Networking on EU / international level

At the European level, there are several working groups of groundwater experts, who know each other very well. Invitations are issued internally, through their own contacts, e.g. the English representatives issue invitations every 18 months to a groundwater commission.

The EU Water Framework Directive (WFD) is itself the result of international networking. The German Federal States´ Working Group on Water (LAWA) is a group of national experts in ground-water protection. Through each state expert, further connections exist to the state administrations.

Taking the practice of the WFD as an example, the network consists of: the German Automobile Club (ADAC), fishery associations, land associations,

leisure firms, wood-land owners, Chamber of Industry and Commerce (IHK), agricultural lobby, water suppliers and environmental groups.

#### The network on EU / international level in dialogue

There are different views of the need for networking within the role group. At European and Federal level, and in concrete terms, putting the WFD into practice, no need is seen to extend existing networks. The participation of the Green League (Grüne Liga) and the Environment and Nature Conservation Association - BUND is exemplary in the Federal States of North-Rhine Westphalia and Schleswig-Holstein. There exist diverse opinions about the intensity of transparency and participation wanted/ needed: for most involved administration/ policy workers transparency is only desirable as long as it does not delay or hinder administrative decisions. This corresponds to a call for transparency, open discussion and moderation of the process. An extension of the network to WFD and national practice is not seen as necessary.

The exchange of ideas internationally with administration officers, research experts or NGOs is seen as an interesting potential by one of the interviewees, missing international linkages in his own work, especially in relation to the extension eastwards (Hungary etc).

#### Networks on national / local level

On the local level, there are network links to local associations and invitations to talks on water taxis, cruise ships, to report on the formalities.

#### The network on local level in dialogue

At the active local level, a wish for livelier contact with nature conservation associations was expressed. There is interest in participation at the European Fund for Regional Development - EFRE projects by one interviewee.

As example, the active continuation of the workshop group "Waterbank areas", first started by the Science Shop 'kubus', Technical University Berlin in 2002, was specifically mentioned. One aim could be to maintain a pool of partners, to get to know each other and exchange formulations of tasks. A group of this kind would be an interesting field for specialists, to exchange views on, for

example, the desired structuring of Berlin's watersides from an ecological point of view.

Internet and data banks of importance for thematic co-operation:

Important data banks are available at:

<http://www.wasserblick.net>

<http://www.rivernet.org>

<http://www.rivernet.org/elbe/welcomed.htm>

<http://elise.bafg.de/>

<http://www.bodenbuendnis.org/> (=ELSA)

<http://www.gein.de/servlets/TextSearch>

Interviewed organisations:

<http://www.bafg.de>

<http://www.stadtentwicklung.berlin.de/umwelt/wasser/>

<http://www.blN-berlin.de/blN/index.html>

Use of data banks in discussion

The use of these first named data banks works well, depending on the status of equipment and the use of computers in the offices and maintenance of the data bank. More important means of exchanging ideas and reaching agreements between administrations are telephone calls (a quick explanation over the phone when necessary) or meetings and conferences, especially for international co-operation.

How the named networks share and disseminate their knowledge

The Federal States' Working Group on Water – LAWA - does no public relations work; this takes place through lobby groups and the authorities themselves. Questions frequently arise about the interpretation of the national model directive (to the WFD) in the federal states' directives. Industry and NGOs, e.g. try to influence the directives through politic. The administrations are the wrong address in this case. Writing contributions to magazines to inform the public about particular projects or even things that are wrong, are

just a private pleasure, as is giving talks on request. The project group uses the established and maintained data banks for knowledge transfer.

#### External support options seen by the authorities interviewed

The representatives of the authorities interviewed see support options in spreading knowledge, directives, decisions and results. To support decisions the following ideas arose:

- Activating the group on waterside problems co-ordinated by 'kubus' as a good support in the ongoing official work to involve NGOs and the public,
- English language support, which would be important for international co-operation, e.g. a joint European Fund for Regional Development - EFRE-application,
- Setting up a pool of research experts, in the field of water management, which could be applied to when needed, would be in the general interest.

#### Offers by the networks

- It would be possible, when necessary, to gain the expertise of the administrative officers for talks at events, on request. This could be formal, as a sideline, or private, but then simply as a private opinion.
- Links to data banks would have to be negotiated with those responsible.

#### Participation interest in the ISSNET pilot

Politicians would certainly be the most suitable people to be involved in changing things. However, the administration officers are all interested in participating, under different conditions:

- As consultants to the field of experts
- Using a data bank of experts for definite questions from the administration
- International exchange with specialist colleagues, especially the eastward enlargement of the EU

- Offers to write articles in German for the "Living Knowledge magazine", given the possibility of an English translation.

All authorities interviewed are potential co-operation partners for transdisciplinary thematic co-operation on sustainable water management. One is more sceptical than the others in processing this kind of co-operation and the use. One needs more language support than the others.

### *3.2.3.2 The non-governmental organisations' perspective*

The following summary analyses the current networks of the German ISSNET WP4 interviewees, representing non-governmental organisations and their potentials for as well as demands on transnational co-operation.

#### Networking on EU / international level

The network "Threat to Nature" has been the only one mentioned for international network examples. It represents action alliances as network with further international NGOs, people's initiatives in Berlin, the Czech Republic and Poland. Nevertheless, additionally there exist international expert-to-expert contacts on organisation level at BUND and Ökowerk, not explicitly mentioned by the interviewees.

#### The network on EU / international level in dialogue

The interviewees are willing to experiment with international exchange, to see if that is helpful too. New partnerships, e.g. with Hungary, Romania (eastward enlargement) are seen as a particular chance for the EU networks.

As such networks' motto "alliance of sustainable regions and one-world co-operation" has been proposed.

#### Networks on national / local level

Some local actors see themselves as a platform between the administration, society and NGOs, also research in its widest sense, since results of environmental research are palpably put into practice and transferred. That is e.g. the case with the Nature Conservation Centre "Ökowerk", which in addition, sees itself as a mediator between the Senate Department for Urban

Development, the water board and the public. The working group on water is active when clean drinking water through water bank filtration is weighed up against the preservation of wetlands.

The Environment and Nature Conservation Association - BUND has a wide network, including its members and directors, to large research institutes and foundations, (e.g. Centre for Agricultural Landscape and Land use Research - ZALF e.V., German Environmental Aid - DUH).

Additionally there exist Local Agenda 21 networks all over Germany.

#### Networks on local level in dialogue

Most interviewees at regional and local level in Berlin and Brandenburg consider expert networks to be very important and capable of being extended. The following actors are mentioned as important for an extension of such networks: NGO networks, forests/ hunting, Agenda offices, transfer organisations, community representatives, federal institutes and authorities at communal, state and national level, environmental associations, networks, industry (privatisation) and water supply and distribution, fishery, inland waterways, agriculture, drinking water supply, waste water disposal, consumers.

Research into individual local problems and into the agenda process is essential. Closer networking with the Science Shops would be sensible here. A pool and an exchange of experts would be very interesting, if the national Science Shops would maintain it.

#### Internet and data banks of importance for thematic co-operation

- "Threat to Nature": <http://greennature.com/article1027.html>

#### Interviewed organisations:

- <http://www.bund-berlin.de>
- <http://www.oekowerk.de>
- <http://www.lag21.de>
- <http://www.grueneliga-berlin.de>
- <http://www.oekowerk.de>

### Use of data banks in discussion

Nearly none particularly data bank fulfilling NGOs' interests is known. Direct, e-mail or phone contacts are given preference as well as workshops and seminars.

Two NGO interviewees have driven demand on an expert and knowledge pool organised at a regularly actualised and cared for data bank. A transnational data bank as a pool of experts, reference and literature should be so organised that an independent search for specialist knowledge and material/literature is possible. In addition, an information platform should be integrated, where questions can be put and answered. It should be possible to find the right expert partner and there should be a chat-room for direct communication. The NGOs have no fund from which to finance a pool like this. This transfer of knowledge from research must be applied for and included in third party funds (national and international).

### How the named networks share and disseminate their knowledge

Up to now, information is exchanged via:

- Flyers, circulars (e.g. "Oder Circular"), annual reports, events calendar 2x a year, quarterly newsletters on request; media presence is ensured, magazines with concrete distribution lists, information distribution to project partners;
- Own publicly accessible library with a good selection of "grey literature";
- Statements as an accredited environmental association (§9, Berlin Nature Conservancy Law, BlnNatSchG); Stating position at state and national level, in transport ministries and parties, in connection with media work, strategic questions to political parties. Procedure: found local action group when an actual problem appears or, if necessary, the association itself can bring in expert backing and media contacts. Establishing working groups with lecturers and voluntary speakers on current topics.
- Conferences on special subjects, newsletters, own web sites;

- Brochures advertising particular projects, brochures about courses offered "Program of events... ecological education and conference centre", flyers at exhibitions, e.g. the Green Week (Grüne Woche) Berlin, via internet and e-mail, answering queries in writing/ by telephone/ personally, environmental advice.

#### External support options seen by the non-governmental organisations interviewed

Even when contacts to scientific institutions exist, the effort of filtering out the right expert to answer a particular question is too high. The effort of research is sometimes carried out in NGOs by students doing practical training, but the need is greater than can be satisfied. Directly accessible information from research would be very helpful. As a concrete example: an international info-exchange on the subject of water, with a web forum for specific questions.

It remains to be seen whether the Science Shops succeed in gaining access to data needed locally. A pool of experts and provision of specialist data would be helpful. More trainee scientists are needed in the NGOs e.g. on dissertations: especially biologists, landscape planners and geologists (e.g. the Environmental Dissertation Exchange of 'kubus'/ Technical University Berlin could be useful here).

Some of the interviewees laid emphasis on the acquisition of projects and the offer of help with (among others) European Fund for Regional Development – EFRE, Environmental Relief Program (UEP)-applications, while one perceived the ISSNET data bank most attractive. It should focus on an expert and knowledge pool.

#### Offers by the networks

NGOs regret for only being able to offer informal supervision for final papers at publications, diploma or master thesis, not formal supervision.

Positions for practical training are offered, also some contracts are given for short-term project work. International specialists participating in such programmes should be able to communicate fluently in English, horticulturists and landscape experts included.

Practical training with Environment and Nature Conservation Association - BUND or the Berlin Nature Conservation Centre "Ökowerk" for interested parties from Romania would be conceivable. They would need to speak English and have some specialist knowledge, as well. Personnel exchange would also be a possibility. The interviewees offer scientific input via exchange of personnel with and education and extension input for the New Federal States partners on demand.

A more active offer is about event rooms, large forest hall of Ökowerk e.V., 200 m<sup>2</sup>, can be hired for meetings.

#### Participation interest in the ISSNET pilot

All three interviewees expressed interest in taking part in the pilot project. The creation of an information platform, to be maintained and supported by the Science Shops, would be particularly attractive. The possible use of a joint national and international network of Science Shops and project participants, the possibility of spreading information via newsletters or Living Knowledge magazine and the acquisition of projects seems important to all those asked.

First specific exchange ideas are:

- Acquisition of joint projects at the level of e.g. INTERREG from the European Regional Development Fund (ERDF), Environmental Relief Program (UEP) would be interesting;
- Possible exchange of analysis equipment e.g. with the Institute for Environmental Analysis "Messzelle" in Berlin;
- Interest in co-operation on exhibitions, transfer of specialist knowledge;
- Loan of materials for analysis, printing and photos (to be found e.g. in the Centre for Agricultural Landscape and Land use Research - ZALF Visiothek: [www.zalf.de](http://www.zalf.de)) would be good;
- Organising a Berlin/ Brandenburg workshop at the Science Shop 'kubus';

#### *3.2.3.3 The researchers' and scientists' perspective*

The following summary analyses the current networks of the German ISSNET WP4 interviewees, representing researchers and scientists and their potentials for as well as demands on transnational co-operation.

### Networking on EU / international level

An international network of excellence "Landscape tomorrow" has been built up at the Centre for Agricultural Landscape and Land use Research – ZALF e.V. in recent years ([www.zalf.de](http://www.zalf.de)), which is specialised in land use. The GLOWA programs "Global Change in the Hydrological Cycle", one of the ZALF association institutes is additionally part of, combine several national and international research institutes under one central idea.

The IÖR works on and co-ordinates the project "Cross-border Management of River Basins", in which scientists from Slovakia, the Czech Republic, Hungary, Austria, Slovenia, the Ukraine and Romania are involved.

### The network on EU / international level in dialogue

It is difficult to arouse international interest in regional results. This scepticism is due to the lack of resonance for specifically regional situations. Thus it is hard to find appropriate international partners with similar special subjects or project area (topographical) characteristics. The main emphasis of international exchange can only work via transferable methods! For topographical reasons (similar problems of water supply and distribution), co-operation with Poland and the Baltic confederation makes most sense for water management in North-east Germany.

The WFD intends a global network connected to the local level, through the prescribed involvement of user groups. Problem-orientated networks are useful. It would be very important to move the division of administrative districts for observation and decisions towards ecological divisions. Administrative borders in water management must be overcome.

Knowledge transfer about application of methods and the extension of scientifically based "Integrated Water Management" are of importance for European networks; a lack of international connections and links is seen. Interdisciplinary extension of water management research is required, in order to provide practicable solutions to problems. Extended networks are of international importance in developing concepts.

The exchange of ideas with its own role group is most important for the role group research at international level; this is due to current support practice. The exchange of experts is important at the methodological level and for sector discussions. Direct exchange with the authorities in partner countries is not really possible and would rightly be considered as interference. Co-operation with the authorities in projects takes place via research partners, who maintain their own contacts to the national/ local administration. Methods of decision-making often remain hidden from international project partners.

#### Networks on national / local level

The GLOWA programs "Global Change in the Hydrological Cycle" combines several, national and international research institutes under one central idea. "Research for environment" means to the Federal Ministry of Education and Research - BMBF project GLOWA-Elbe, Spreewald part-project a local and regional network of scientists and actors of a specific region.

#### Networks on local level in dialogue

Compared to the approaches of other associations, the research approach of the German Research Society – DFG, is not explicitly designed to be applied and thus follows basic research. The group of researchers is therefore to be seen as loosely associated, not as a "network".

The most important groups of actors in local and regional networks would be worth strengthening. Usually good networks exist if personal relationships are involved or where there is a specific problem to be solved. Networking rarely takes place systematically. Important groups for this topic and participation on decision-making would be: agriculture, waterside residents, water suppliers lobby. Important associations must be involved: tourism and leisure associations, environmental groups, farmers' associations, individual residents and oriented according to the watershed: bargemen, mill owners, users of waterpower, big hydroelectric power stations. The actual level on the spot must be viewed in each case.

As well as the focus on research, the role groups politics and administration and the NGOs are of interest. Contact to the users, e.g. Communal

Associations of Mutual Interest on Waste Water Treatment is essential in applied research

#### Internet and data banks of importance for thematic co-operation

The Institute for Ecological Spatial Development - IÖR's extensive network is shown in the web platform: [www.ioer.de](http://www.ioer.de) with lots of network linkages:

The German Network for Landscape-related Environmental Research (DNLU); Spatial Research Competence Centre (RKD), Dresden Flood Research, Competence Network of Spatially-related Research in Germany in the 4R Institute (4 spatial science Leibnitz institutes, [www.ifl.leipzig.com](http://www.ifl.leipzig.com)), Chilean-German University Network, (network of spatial science research institutes in Central and Latin America), "PERSEUS" network (the EU project PERSEUS is part of the fifth EU research framework program), European Centre for Nature Conservation – ECNC-network in Holland, International Association for Landscape Ecology- IALE-D AG landscape structure, network of spatial research institutes in Central and Eastern Europe.

#### Interviewed organisations:

- [http://www.zalf.de/home\\_zalf/institute/lwh/lwh/](http://www.zalf.de/home_zalf/institute/lwh/lwh/);
- <http://www.ioer.de>; [http://www.ioer.de/fr\\_kont\\_1.htm](http://www.ioer.de/fr_kont_1.htm)
- <http://www.tu-berlin.de/fak7/forschung/>
- [http://www.agrar.hu-berlin.de/wisola/fg/ress/index\\_e.html](http://www.agrar.hu-berlin.de/wisola/fg/ress/index_e.html);
- <http://www.agrar.hu-berlin.de/wisola/ipw/>
- [http://www.tu-berlin.de/fb7/ile/fg\\_wasserkult/Fachgebiet/Fachgebiet.html](http://www.tu-berlin.de/fb7/ile/fg_wasserkult/Fachgebiet/Fachgebiet.html)
- [http://www.arch.tu-dresden.de/FakArch/institute\\_professuren/frame\\_landschaftsarchitektur.html](http://www.arch.tu-dresden.de/FakArch/institute_professuren/frame_landschaftsarchitektur.html)
- <http://www.Fsp-Wib.TU-Berlin.de/>
- <http://www.bodenkunde.info/Forschung/forschung.html>

#### Use of data banks in discussion

There should be service pages to make the web-search for potential partners quicker and easier. A sensible first step would be a list for the TU Berlin. A

simple search function should make it easy to find out who is working on which special topic. In a "Research Data Bank Water", ring lectures, for example, could be offered.

Whether an EU-wide data bank would be useful at local and regional level is uncertain. One other clearly considers an entirely new forum unnecessary, as so many possibilities of obtaining information already exist; the difficulty is rather gaining access to existing networks or finding time to build up contacts.

#### How the named networks share and disseminate their knowledge

There are several e-mail distributors in Germany for individual information requirements e.g. Kowi-Partner Search, Federal Ministry of Education and Research - BMBF Info, EU Office "Women in EU Research", European Academy Urban Environment - EAUE (co-operation for applications), the newsletter DWK. These media can usually also be used to disseminate one's own results.

Personal contacts and national and international conferences, e.g. meetings about settlement water supply and "Middle East Water Symposium", water association conferences, the States Environmental Authority - LUA are considered more important than actively seeking partners on the internet. Sometimes inquiries are sent directly to the institute or regular invitations of other projects are sent.

Some consider conferences and publications/ articles in various magazines/ journals to be an important service of research, also for NGOs, to give access to research information. Information about 21st European Regional Conference of the International Commission on Irrigation and Drainage (ICID, 15th – 19th May 2005 in Germany and Poland, [erc2005@zalf.de](mailto:erc2005@zalf.de)/[icid/gecid\\_home.htm](http://icid/gecid_home.htm)), has been spread by flyers, e-mails and web sites.

The national dissemination of regional results is unsatisfactory. Those researchers working on joint projects, where knowledge transfer is centrally organised, have only a limited interest in dissemination in general. The project co-ordinators, not the individual scientists, are responsible. Regional workshops to disseminate results with many participants and press presence,

is most effective in the same time to get feedback out of the region. Researchers experienced the local press to be more relevant than an English-language magazine, like the Living Knowledge magazine is. None of the regional participants would read an article in English. A translation would probably not be read either, because usually only the local papers and notices on notice boards are read.

The Institute for Ecological Spatial Development (IÖR), for example, has its own newspaper, the IÖR reports, series of publications and thematic brochures. In addition, in local projects training, round tables, alteration strategies, steering committees and workshops are organised. These processes are partly self-financed and partly by projects from budget funds, e.g. for co-operation between district. For joint explanations/ statements, employees of the institute are sent to committees in the regions affected. Emergency associations can be created there if action is necessary.

#### External support options seen by the researchers and scientists interviewed

There are many networks, but no overall view; this could be achieved by a data bank. Are there any Science Shops in Poland? The data bank could be rounded off with an overview of current Science Shops.

A well-maintained data bank would enable exchanges with previously unknown potential partners from similar research institutes to function. However, the need for this is sporadic, e.g. not usually during the project phase, unless something is not working. A data bank would be very important during the application phase. The data bank should include: partners' self-portrayal, headword search for expertise, methodological approach, search engine for perspectives, regional points of emphasis, and search for experts. It should be updated at least every 6 months. A link list and pdf-files from abstracts would be important. The following division would be sensible: Continents, international, all levels; rubrics: a) what are people's concerns? b) Specific knowledge in particular cases (e.g. Landscape Park Ems). A chat-room for regular active discussion and inquiries and to exchange views on the worth of events would be useful in the long term.

The development of an active network, in which participants regularly present themselves (unbureaucratically and without intermediaries) with their new projects and ideas on co-operation, would be the condition for the usefulness of a data bank. Only then is there a chance of making direct contact with each other. New and existing data banks should be made available to partners in co-operation through intermediaries.

In view of the above mentioned co-operation requirements and actor groups to participate in decision-making, the question of a sensible structure for a data bank remains extremely complex. Example projects for pilot processes, concrete partner pools for EU applications arranged according to discipline/role group would be of interest.

#### Offers by the networks

Most of the interviewees would make material available for journalists to work up, if necessary, e.g. for daily papers or for the magazine, if the research results were of international interest.

The interviewee of Humboldt University offers to contribute support competence (EU websites, support websites, experience). The Science Shops should maintain the data bank.

#### Participation interest in the ISSNET pilot

All participants are looking forward with interest to an exchange about the International Science Shop Network (ISSNET).

The most important aspect for all participants is finding new international co-operation for the acquisition of projects. A data bank could be useful here (see above for structure). All are ready to take part in providing contents for the databank.

Interest was also expressed in the Living Knowledge conference in Seville, especially if there is a workshop on water management, which could serve to build new networks. (Authors comment: In fact none participated in that workshop).

The Centre for Agricultural Landscape and Land use Research - ZALF is very interested in acquiring international projects and therefore in a pool of partners in water management or international research towards this, especially when partners (e.g. from Romania) work on water supply in wetlands with an aridity problem. An actual search for stakeholders at local level would often be helpful in approaching the work in new project areas, but would probably be too much to expect of the level of international co-operation envisaged here.

The magazine Living Knowledge is also of interest, though it need not be peer reviewed, because the time-span between writing an article and its appearance is too great for an exchange and e.g. a call to participate in the development of ideas or applications. The main aim here is to present what one is at present working on, what co-operation one would like or is looking for. The inclusion, via the editorial process, of one or two specialist articles of good quality would be sensible, as an extra treat. However, this does not apply to all texts, since generally at the beginning of a project, it is hardly possible to announce this in a magazine. All participants are ready, in principle, to contribute to the magazine or newsletter.

The Science Shops` job should be to fill the gaps, but not just by organising workshops and bringing people together. The following services are more important: taking on practical tasks, helping organise projects, including heading them up or administering them; bringing about co-operation for joint project applications, exchange of personnel through EU programs such as Marie Curie, Erasmus; concentrating competence at the universities and pushing applications. University resources are generally inadequate for this. Creating partner pools and finding partners would be a welcome service from Science Shops. The partners in a pool should introduce themselves and present their special interests for project applications (data bank plan). The data bank should also concentrate the latest information on potential and existing funding programs and application procedures.

The Science Shops could themselves obtain thematic contributions for the conferences from within the projects. Active networking via ISSNET is very welcome.

#### *3.2.3.4 The transfer organisations' perspective*

The following summary analyses the current networks of the German ISSNET WP4 interviewees, representing transfer organisations and their potentials for as well as demands on transnational co-operation.

##### Networking on EU / international level

The Science Shop Bonn and the Science Shop 'kubus' are members of the International Science Shop network.

##### The network on EU / international level in dialogue

The possibility for NGOs to participate in putting the WFD into practice in the state law of North-Rhine Westphalia (NRW) was mentioned as a good example of participation and transparency. Good networking of all groups of actors is especially important for practical action. On the subject of water use in agriculture, it would be important to extend networks to southern Europe; there are some inquiries about analysis from Spain and Greece. The degree of networking is dependent on the problem and where the political "lever" is. In transnational co-operation, each partner can best estimate that in his own country.

In the view of the transfer organisations, the most important role groups for extending the network activities are on EU / international level:

- Colleges/ universities and specialist associations, since both already possess international networks (e.g. through umbrella organisations or projects such as: IMPETUS - Integrated Management Project for Efficient and Stable Use of Fresh Water, GLOWA – Global Change in the Hydrological Cycle)
- Transnational connections to all role groups are a good idea, e.g. with Romania.

### Networks on national / local level

Three of the transfer organisations interviewed are not at present bound in a network on "sustainable water management". The reason given was the collapse of several project-supporting structures: volunteer students to research new relationships are hard to find at present. In the course of the reform of Berlin's districts, the district environmental shops were closed, resulting in the break-up of networks that had existed for a long time. Existing contacts to other transfer organisations, including 'kubus', NGOs and administrations, are mainly informal and not necessarily concerned with the topics dealt with here. The Agenda Transfer Agency in Bonn is itself part of a network for sustainable water management and land use.

The Interdepartmental Research Centre "Water in Urban Areas" (FSP-WIB) at the Technical University Berlin comprises 22 subject areas, which co-operate as a pool of experts. The Interdepartmental Research Centre itself is a co-ordinator and network and co-operates partly with 'kubus' and extensively with the Water Competence Centre. FSP-WIB has network connections to various specialist and environmental associations. The other interviewees have many informal contacts, but no actual thematic networks on water management.

### Networks on local level in dialogue

Networking in the field of water management is considered very important, without exception. Co-ordinated action is not just necessary; it would open up more scope, especially for the communities and enable them to be more successful. A need for networks at local level, especially among the authorities, is seen because they often lack the capacity to maintain contacts. In the view of the transfer organisations, the most important role groups for extending the network activities are on national / local level:

- All 4 role groups, dependent on the question: citizens, NGOs as contractors, scientists for the methods, authorities for the regulations, service centres to carry out the actual maintenance;
- Especially researchers and NGOs; not so much the authorities, unless funding national projects;

- Science Shops to maintain data banks, especially linking with other data banks and overviews. Science Shops should concentrate topics, enable specialist dialogue as a service provider in knowledge transfer and create specialist focus points. This would simplify the search for project partners at the same time;
- Partners should be involved in all 3 pillars of sustainability: economics/ technology, ecology and social issues. There are too few partners for the pillar sociology/ social issues in interdisciplinary project personnel. Important role groups: research, politics/community partners: water boards – usually through co-operation of the local/national project partners. NGOs are important partners, though for the application process, SMEs (small and medium enterprises) are now strategically better partners;
- Communities and leading local organisations, planners at different levels or the authorities responsible for them, ministries, agriculture, consumers organisations.

#### Internet and data banks of importance for thematic co-operation

At the moment, Agenda Transfer is setting national web-portal of indicators for communal sustainability indicators. Arising from the agenda initiative, there is a web-platform, [www.agenda-transfer.de](http://www.agenda-transfer.de) and the data bank "gute-Beispiele.net".

The Interdepartmental Research Centre "Water in Conurbations" (FSP-WIB) is also a partner within the IPS (training centre) and lectures the English course "Advances of water treatment and reuse". So far, there are various flyers and a CD about the FSP-WIB available free of charge on request by e-mail. Besides, a DVD of the respective course can be ordered by e-mail against payment.

The FSP-WIB "Centre for Water in Urban Areas" maintains the "Dialogue Network" (see Internet link) that is, the technical supervision in the implementation.

#### Interviewed organisations:

- <http://www.Fsp-Wib.TU-Berlin.de/>; [http://www.Fsp-Wib.TU-Berlin.de/e\\_FSP\\_frameset.htm](http://www.Fsp-Wib.TU-Berlin.de/e_FSP_frameset.htm); <http://www.Fsp-Wib.TU-Berlin.de/DialogueNetwork/Dialogue-Network.htm>
- [www.bfua.de](http://www.bfua.de)
- [www.wila-bonn.de](http://www.wila-bonn.de)
- [www.agenda-transfer.de](http://www.agenda-transfer.de)

#### Use of data banks in discussion

E-mail and the world-wide-web are commonly used to maintain contact; e-mail is used to exchange views with colleagues. The EU website: Cordis and a databank overview are recommended.

The data bank "Dialogue Network" is based on the idea and initiative of a TUB professor and is intended for alumni of the TU Berlin who are working in their countries of origin or abroad. The aim is to create a forum where they can communicate with each other and with staff and students at the TU Berlin. The emphasis is on hydraulics, agriculture (irrigation and drainage) and hydroponics.

Highly dynamic web techniques such as Wikis, Blogs etc. (<http://de.wikipedia.org>) could well be used for partner search, project applications.

#### How the named networks share and disseminate their knowledge

All the transfer organisations interviewed consider knowledge exchange and advising to be important aspects of their work. In one case, the specialist PR takes place mainly through the individual projects, rather than through the organisation. This happens with the dissemination-packages, which are applied for and funded; they are mostly carried by those who fund the project and are intended in EU projects. All use their own or their partners' websites to disseminate the results of their research, including pdf-brochures to be downloaded.

Information is exchanged within the Agenda network by printed media, the newsletter "Agenda News", on the web-platform, in the data bank and as advisors to the communities and other publications.

Common methods of dissemination for transfer organisations are workshops, specialist conferences, discussions to exchange knowledge and experience exhibitions, school projects, adult education, lectures and publications/ brochures. Media, television, press releases connected with actions or campaigns (e.g. east campaign) are less frequently mentioned.

#### External support options seen by the transfer organisations interviewed

The exchange of ideas is generally important for project applications, so a web-partner-pool would be very welcome. However, continuity must be ensured. Publications are also important.

Most concrete idea by transfer interviewees has been the following: Assistance in international literature searches would be important as a joint condition for the mutual understanding between partners and for all users. Tips about relevant literature would be a desirable addition to a data bank. Taking the idea further, but at a local level, the procedure could look like this: a potential data bank should include the inner-university exchange about main aspects of the work at the TU Berlin as well as informing students about possible applications. A kind of exchange/ chat-room could be installed, where on the one hand, people/ NGOs could offer money for knowledge transfer and answers, while on the other hand students and scientific experts could answer these specific questions, for a small cash reward, if the answer is satisfactory. The money would encourage the researchers to take part; the only personnel necessary would be for the website supervision.

#### Offers by the networks

The official supervision of ERASMUS students is not often possible in transfer organisations, but the Institute for Environmental Analysis (Messzelle) would be very happy to present as well their analytical and intermediary competence as examples of their work for excursions.

A connection between the platform of Living Knowledge magazine and the Science Shop data banks with FSP-WIB's own data banks would be desirable.

#### Participation interest in the ISSNET pilot

All those interviewed are interested in international networking on the topic of water management. This means, to them, focussed sharing of experiences, sharing knowledge, tackling problems together and open co-operation on project applications – motto: learning from each other!

Two of the interviewees consider the three possibilities, magazine, data bank and project acquisition for transnational exchange, to be equally important. Two see project acquisition as most important. Two emphasise the value of developing a data bank for specialist discussions and acquisition of partners.

Publications are also important: the *Living Knowledge magazine*, which is relevant for the public, should not be peer-reviewed. The review process would be too slow to enable a flexible partner search and to disseminate results even in the first phase of a project. "Networking with NGOs and Participation" would be interesting as a main topic for the magazine. Joint comparative publications would be good. Living Knowledge magazine would be useful for announcements, letters of intent, partner search for specific project applications. The *data bank* would complete the offer.

Active support from and maintenance of data banks would be helpful and a very good idea, in addition to an international overview of data banks on the topic of water. A data bank as partner and information pool should include e.g. calls for proposals and chat-rooms for information exchange. The partner pool should provide information about: the focus of the partner's work, specialist subject areas and e-mail distributor. The state-of-the-art information, e.g. inquiry results, should be included. If a data bank serves as a partner pool, it is essential that the user can act directly in the web-platform, without always needing a mediator, e.g. a Science Shop.

The acquisition of joint, interdisciplinary, cross-border projects: two interviewees emphasised the acquisition of funding. Research institutes and comparable organisations are always welcome partners for joint project applications; they can fill out the so-called "social cultural aspects" and "gender issues", the whole pillar of social sustainability for funded projects. An overview of funding programs would be helpful, including application deadlines, explanations of what can be funded. Science Shops, with their many contacts should also initiate the formulation of questions for research programs and projects. The acquisition of funding could also be centrally organised with co-ordination as required and partner pools.

A further requirement is for rooms for workshops (for example for 'kubus' or the Nature Conservation Centre "Ökowerk"), to enable the organisation of regular meetings, according to topic.

The development of an internationally co-ordinated toolbox for practice and advice would be a good idea, to take up sustainability processes, which harmonise with the new laws (e.g. EU WFD).

#### *3.2.3.5 Main needs and support options for future thematic transnational co-operation*

Namely all interviewed role groups mentioned a need for co-operation and networking. Most expressed their willingness in co-operation, participating in the ISSNET pilot and in extending their current networking. Differences in the level and intensity of co-operation needed have been analysed:

- There exist different views of the need for networking even within the administration officers' and politicians' role group: At European and Federal level, and in concrete terms, putting the WFD into practice, no need is seen to extend existing networks. Those are seen as efficient and capable in administrative decision-making; for most involved administration/ policy workers transparency is only desirable as long as it does not delay or hinder administrative decisions. This corresponds to a call for transparency and discussion in moderation.

- In opposite, at the active local level, a wish for livelier contact with nature conservation associations was expressed.
- Most interviewees of NGOs in Berlin and Brandenburg consider expert networks to be very important and capable of being extended. Their working focus is mostly directed towards local and national level, nevertheless they see an extension potential eastwards, e.g. with Hungary, Romania, Czech republic etc.. To extend international co-operation is seen as an experiment, NGOs nevertheless feel open for.
- In researchers' point of view extended networks are of international importance in developing thematic concepts.
- Interviewees of NGOs, science and research and transfer organisations scheduled important actor groups to participate and co-operate in thematic networking activities.
- According transfer organisations, co-operation and networking is their working focus. Networking in the field of water management is considered very important by transfer organisations, without exception. Co-ordinated action is not just necessary; it would open up more scope, especially for the communities and enable them to be more successful.
- A need for building up a partner pool to exchange views is a common estimation of all interviewees of the administration role group.
- For administration officers, well built up data banks would be welcome, but the definitely use would be depending on computer equipment being at hand. Linking existing data banks is of interest. Phone calls, e-mail and special meetings are seen as most important for co-operation and decision-making processes. This view on data banks is most comparable with the one of NGOs. Nearly none particularly data bank fulfilling NGO's interests is known. Direct, e-mail or phone contacts are given preference as well as workshops and seminars.
- Most interest of NGO interviewees is given towards a potential pool and an exchange of experts, if the national Science Shops would maintain it.
- A potential ISSNET data bank should focus on an expert and knowledge pool. NGOs wish to further integrate research into NGO

work on local level as well on international level by participating in exchange programmes. Knowledge transfer must be applied for and included in third party fund.

International expert and knowledge transfer is seen with scepticism of the researcher group. International exchange can only work via transferable methods, as currently funded as “knowledge transfer” in international projects. For researchers knowledge transfer about applications of methods and the extension of scientifically based “integrated water management” are of importance for European networks; a lack of international links is seen.

Gaining access to existing networks and data banks would be a good help, researchers mentioned. A research data bank including web-search for potential project co-operation partners, for disseminating ring lectures or important (pdf) publications would be of interest by researchers and transfer organisations.

The researcher group has been the one, next to the administration group searching most for co-operation within the own role groups, even if transparency and participation processes are meant to be important. An overall view of existing thematic data banks is of interest. Researchers aspire to be independent from transfer organisations in contacting potential co-operation partners via data banks and expert pools. Transfer organisations try to make sure that continuity of carrying out web site supervision and practise knowledge transfer functions must be insured.

All role groups gave important and very useful hints indirectly addressing ISSNET WP1 on how to build up an effective and user group oriented data bank, supporting a thematic pilot project on transnational water management.

Supporting activities of external partners of administrations, e.g. intermediaries, could be to organise participation processes and round tables including all representatives of important role groups. Researchers wish a further extended Science Shop role in bringing feedback and new research

themes from NGOs and citizen towards research groups. To answer particular questions, NGO interviewees have a demand on filtering out expert knowledge, accessible information and literature from research. Further kind of co-operation is seen in equipment and data exchange, loan of materials.

All interviewees are willing to provide contents for the data bank, material and knowledge for exchange, contributions for the Living Knowledge magazine and participating in active networking initiated by the International Science Shop Network.

### **3.2.4 Romanian Report Summary**

**By Carmen Teodosiu and George Barjoveanu**

InterMEDIU Information, Consultancy and ODL Department,  
'Gh Asachi' Technical University, Iasi, Romania

This chapter presents a summary of the analysis of the interviews carried out with the Romanian representatives of the organisations selected to participate in the WP4 Pilot Project: *“Sustainable Water Management and Land Use”*. It briefly presents the profile of the organisations, their networking activities; as well as their expertise, expectations and availability related to further participations in co-operation projects on various themes that they have proposed. Detailed information about the full text of the analysis can be found in the *“Analysis of the Romanian Interviews for the Pilot Project: Sustainable Water Management and Land Use”* (2004) by C. Teodosiu & L. Maftai ([http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm) ).

#### *3.2.4.1 Governmental Organisations*

The Water Authority R. A. *Apele Române* Iasi (WA) is involved in projects regarding the co-operation between the main providers and users of data and information within the sector of integrated management of water resources at national and international river basin level.

The Environmental Protection Agency Iasi (Iasi EPA) issues environmental agreements and authorizations for the economic, industrial and other types of

activities and has monitoring activities for the environmental factors and economic organisations.

Public Health Institute (PHMRI) examines the quality of drinking water from urban and rural communities through chemical, biological and bacteriological analyses and the possible effects of water pollution on human health are communicated towards local population and the competent authorities (Environmental Protection Agency centralizes the environmental data). The processing and interpretation of the environmental data is followed by its communication, publication, and presentation at various scientific sessions and conferences. The results of this data analysis are introduced in the national database of the Ministry of Health.

The Environmental Protection Agency has developed some educational programs in co-operation with the Foundation for NGO's Partnerships Miercurea Ciuc and the Public Health Institute with the purpose of training and raising awareness of the representatives of some villages from Iasi County regarding the pollution of their wells with nitrites and nitrates and the preventive actions that have to be undertaken. The EPA elaborates and approves the Plan for Urban Development and the County Development Plan by checking all the general activities for the environmental protection: sewage system, wastewater treatment, special sites for waste storages.

| <b>Organisation details</b>                                                            | <b>Contact Person/ Interviewee</b> |
|----------------------------------------------------------------------------------------|------------------------------------|
| Water Authority R.A. "Apele Române" Iași (WA)<br>www.apeprut.ro<br>dispecer@apeprut.ro | Eng. Chem. Marcel Perjoiu          |
| Environmental Protection Agency Iași (Iasi EPA)<br>ipmis@rdslink.ro                    | Dr. Eng. Nicolae Peiu              |
| Public Health and Medical Research Institute (PHMRI)<br>www.pub-health-iasi.ro         | Dr. Marieta Vasilov                |
| Water Works Company Iași - Iasi (WWC)<br>www.rajaciasi.ro<br>mariacohl@yahoo.com       | Drd. Eng. Maria Cohl               |

The governmental organisations co-operate very well together at national level, however co-operation with universities and Science Shops is insufficient. The Water Authority is the only organisation that develops an international co-operation at governmental level with countries like the Netherlands, France and the USA based on established intergovernmental agreements.

None of the governmental organisations is part of any information exchange network with the civil society. Although they are aware about the fact that the environmental data and information should be publicly available, they tend to focus on specific technical information that is of little use for the general public.

The governmental bodies envisage the following possibilities for further improving the knowledge exchange as a bi-directional interaction: raising public awareness concerning sustainable use of water resources (WA, Iasi EPA, PHMRI) and the implementation of the legislation – Water Framework Directive (Iasi EPA) and also they have identified that there is a growing need for logistic, financial and technical support.

The main interests in participating to the pilot project are represented by:

- The information exchange regarding the quality of surface and underground waters (WA)
- The development of collaboration projects with the task of improving the monitoring system (WA)
- Harmonization of the Romanian legislation with the European standards by implementing the Water Framework Directive (WA, Iasi EPA)

The representatives of the governmental institutions mentioned the following topics for transnational co-operation: nature protection (Iasi EPA), monitoring of environmental factors: water, air and soil (Iasi WWC), protection of air quality (Iasi EPA), relationship between environment and health (PHMRI), existence of a feedback between NGO's and population, improvement of communication between NGOs, the existence of an adequate information and communication system between governmental organisations and population

(WA), waste management (Iasi EPA, Iasi WWC), construction of environmentally compliant wastes disposal sites (Iasi WWC).

#### 3.2.4.2 Non-Governmental Organisations

The *Academic Organisation of Environmental Engineering and Sustainable Development, Iasi (AOEESD)* is promoting education and environmental awareness among people with the purpose to improve the public participation in the economical or ecological decision making processes. Its activities include documentary publications, a specialized journal (Environmental Engineering and Management Journal), books and manuals concerning sustainable development, monitoring programs of sustainable development on local and national scale. Also, this organisation elaborates technical solutions for understanding the need of sustainable practices and the conservation of the environment.

The NGO *Association for Ecology and Sustainable Development (AESD)*, Iasi is participating in an international co-operation project regarding the soil issues with the main task of developing a Pilot Center For Studies of Soils and Remediation Solutions, and a co-operation project in Iasi County with the Foundation for NGO's Partnerships Miercurea Ciuc for the environmental protection of 2 reservations from Miroslava village.

The activities of *The Friends of the Earth Association, Galati (FOEA)* are related to the awareness of younger generations concerning the importance of the protection and conservation of water resources, the effects of the chemicals used in agriculture on the quality of water and human health. These aspects have formed the object of a co-operation project called Water is Life together with the foundation Eu-Ro Consult (funded by UNDP/GEF) that consisted in stimulating the involvement of schools and teachers from urban and rural communities in increasing the awareness of local authorities for water-related problems.

The non-governmental organisation *AquaTerra, Iasi (AT)* is developing projects concerning the protection and conservation of wetlands with the aim

of improving the protection status for a number of 3 natural reservations within Iasi County: *Green Boundaries project in co-operation with the Club for Tourism and Ecology TurisTor*; *Save the Umbra Kramerii Project*, financed by the MATRA-KNID Program with the aim to recover the local population of fish species protected at European level. The organisation has been also involved in the *Living Waters* project for the implementation of a management plan of an aquatic reservation.

| Organisation details                                                                                               | Contact Interviewee                          | Person/ |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------|
| Academic Organisation of Environmental Engineering and Sustainable Development, Iasi (AOEESD)<br>mmac@ch.tuiasi.ro | Prof. Dr. Eng. Matei Macoveanu,<br>President |         |
| Association for Ecology and Sustainable Development, Iasi – (AESD)<br>palexim@mail.dntis.ro                        | Eng. Aurora Matei, President                 |         |
| Friends of the Earth Association, Galati (FOEA)<br>zamfir@sisnet.ro                                                | Camelia Zamfir<br>NGO Member                 |         |
| AquaTerra, Iasi (AT)<br>grigore@uaic.ro; aquaterr@uaic.ro                                                          | Dr. Biol. Ana Davideanu<br>NGO Member        |         |

All the NGO's involved in this study have developed co-operation activities at national and international level with other NGOs and governmental organisations also, but development of collaboration with universities or Science Shops is thought as necessary.

*AquaTerra* is part of a Central Organisation that includes 3 branches (Bucharest, Iasi, Constanta) and another one, in Bacau, is in its foundation progress.

The need for networking concerning sustainable water management and land use was mentioned by several interviewees (AOEESD, AESD, FOEA) and the intensification of co-operation with experts, university researchers concerning the information and knowledge exchange were also mentioned (FOEA). Two of the NGO's representatives have mentioned an increased need for

involvement of Science Shops in public debates in order to improve the influence on decision-making factors and as promoters for co-operation.

The means used for achieving dissemination and information exchange within interested groups are different and depend on the target groups, some of the possibilities being mentioned by the interviewees: raising the public participation level in the decision making processes (AOEESD), intensification of the co-operation with environmental experts (AESD), and improving the methodologies and techniques of collecting, processing and interpretation of information and by comparison with the EU practices (AESD).

The NGO have expressed their need for support especially for documentation for specific research activities, materials, scale models expertise and financial support.

The NGO representatives have mentioned some other topics that seem interesting for transnational cooperation: training, research and documentation for students in Science Shops for a specific European approach of environmental issues that are of interest for both universities and civil society (AOEESD, FOEA); rural development projects through co-operation of SME's and NGO's (AESD); involvement of public authorities in the elaboration of a common transboundary water resources management plan (AT); energy use and savings (AT).

#### *3.2.4.3 Universities*

4 university scientists representing 3 faculties participated in this study.

| <b>Organisation (Researcher) details</b>                                                                                               | <b>Contact Person</b>                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Technical University „Gh. Asachi” of Iasi<br>Faculty of Industrial Chemistry<br>Department of Environmental Engineering and Management | Prof. Dr. Eng. Maria Gavrilescu (MG)<br>mgav@ch.tuiasi.ro                    |
| Technical University „Gh. Asachi” of Iasi<br>Faculty of Hydrotechnics                                                                  | Prof. Dr. Eng. Florin Stătescu (FS)<br>fstatesc@tuiasi.ro<br>Tel: 0740958802 |
| Technical University „Gh. Asachi” of Iasi<br>Faculty of Industrial Chemistry<br>Department of Environmental Engineering and Management | Prof. Dr. Eng. Carmen Teodosiu (CT)<br>Tel: 0232 237594<br>cteo@ch.tuiasi.ro |
| Technical University „Gh. Asachi” of Iasi<br>Faculty of Hydrotechnics                                                                  | Prof. Dr. Eng. Ioan Cojocaru (IC)<br>Tel: +40232 278683/2153<br>0744 787374  |

The work of the interviewed scientists in the field of the pilot project is focused mainly on two directions of action: development of educational programs and research activities. The educational programs refer to issues such as: water management and water reuse ; public participation in water resources use ; contributions to master or postgraduate courses in the field of Water and Wastewater Treatment, Environmental Management (CT), Environmental Risk Assessment (MG) and Technologies of soil decontamination (FS, IC); training (continuous education programs) for public administration representatives and industry professionals (all).

The Master of Science ODL Program organised by the Department of Environmental Engineering and Management in co-operation with InterMEDIU – Information, Consultancy and ODL Department (TU Iasi) addresses the subject of water management at several disciplines.

The research activities and projects of all the scientists as research activities outcomes address issues as:

- Quality assessment and monitoring of waters and wastewaters;
- Water treatment and wastewater treatment technologies;
- Development of sustainable indicators at river basin level;

- Reuse / recycling of wastewaters;
- Pollution prevention practices and sustainable use of resources;
- Remediation of degraded soils polluted with heavy metals and oily substances;
- Remediation of soils characterized by natural low productivity, humidity deficiency and high salinity;
- Development and implementation of new technologies for the protection of water and soil quality;
- Modelling specific environmental protection processes;
- Bioremediation of environmental factors;
- Pollution prevention of environmental factors and practices concerning the concentrations and flows minimization of industrial wastewater;
- Water resources management;
- Water treatment and wastewater treatment technologies;
- Quality assessment of drinking water and underground waters

The scientists have developed co-operations with national and international partners in different research projects or educational co-operations. These partners include governmental bodies and NGOs that request scientific support for different projects they run and, of course, traditional research partners in other universities and research institutes. Also the co-operation with the InterMEDIU Centers and foreign Science Shops was mentioned.

Some of the scientists are members of international networks that have as field of activity the water resources: the European Water Management Network (EWMN), the International Water Association (CT). One interviewee is member in the INRO network – the Romanian Science Shop Network, an organisation that supports the Romanian Science Shops through the organisation of meetings and development of common projects.

The interviewed scientists have mentioned that the improvement of local, regional and national network activities is necessary in order to broaden the vision of governmental organisations, to increase the access of the public and NGO's to information concerning co-operation programs, call for proposals

and financing agencies and also they have specified that it is necessary to have in Romania more educational programs for sustainable water use (e. g. pollution reduction in industrial units, recycling and reuse practices, public awareness), programs that should be accompanied by a substantial involvement of mass-media, NGO's and Science Shops (MG, CT).

The improvement of local, regional, national activities can be achieved through intense media campaigns. Solving different environmental problems includes preventive actions, measures to be taken for solving the outlined issue, better co-operations between the administrative, technical and management branches and the implementation of the environmental policies (FS).

The interviewees have mentioned some possibilities to further improve the knowledge exchange and dissemination: realization of scientific papers and their publication in prestigious international journals from abroad (MG), development of a network that includes different stakeholders interested in co-operation on sustainable water management and land use and maintenance of regular communication (FS, CT), unrestrictive access to databases that include concrete information regarding interested groups activities, publications, research reports, establishing organisations that can realize links between partners from different countries in multinational co-operation programs (e.g. Regional Development Agencies, Science Shops) (CT), improvement of the informational system by involving the NGOs in synthesizing technical data and their access on the Internet (IC).

Apart from the water management activities, the scientists think that there are some other feasible topics for transnational cooperation: wastewater reuse and minimization of wastewater load and discharges (MG, CT); influence of the global climate changes on resources, water and soil quality (FS); international co-operation for the decontamination of lands affected by natural degradation processes such as erosion and landslips, drought control (IC).

#### 3.2.4.4 Science Shops

The InterMEDIU Centers have been created in Romania after the Dutch Science Shop model through a MATRA financed project starting with 1998. All the Centers deal with public concerns about the environmental problems. Actually, the name InterMEDIU is derived from “inter” – interface and “mediu” the Romanian word for environment.

The Romanian Science Shops have developed and run various projects within the water management field. Thus, the InterMEDIU, Information and Research Center for the Civil Society based at the “Al.I.Cuza” University of Iasi (IM UAIC) has developed a research project regarding the establishment of a natural reservation at Vladeni Wetland. Also they have participated, together with the Chemistry Science Shop from Groningen University (The Netherlands) in a research project regarding the quality of 2 recreation lakes in Romania and The Netherlands. At the request of Iasi EPA, the InterMEDIU Department at “Al.I. Cuza” university has elaborated “*The Red list of Endangered Species in Iasi County*” (a book published in 2004).

The InterMEDIU Training, information and Mediation Center for Eco-Development (IM TIMCED) Ploiesti has participated to the implementation of an international training program regarding the water management (funded by UNDP/GEF and implemented by UNECIA, Sheffield, UK) and the European legislation in the water sector (funded by PHARE and implemented by EDC Ltd. Dublin for Danube River Basin).

InterMEDIU Center for the Civil Society based at the university of Bacau (IM UB) is co-operating with NGO’s in programs related to biological indicators monitoring and has developed several ecological education programs.

InterMEDIU Center of Information and Consultancy based at Politehnica University Bucharest has co-operation programs with school inspectorates, EPA’s, municipalities especially in the fields of water and waste management.

| Organisation details                                                                                                                                                                              | Contact Person                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| InterMEDIU, Information and Research Center for Civil Society ,University “Al.I.Cuza” of Iasi, Faculty of Biology (IM UAIC)<br>www.intermediu.ro; inmediu@uaic.ro<br>www.geocities.com/intermediu | Dr. Mircea Nicoară<br>mirmag@uaic.ro<br>Science Shop Co-ordinator                      |
| InterMEDIU, Training, Information and Mediation Center for Eco-Development (IM TIMCED)<br>University of Petroleum–Gas, Ploiesti<br>www.intermediu.ro                                              | Adrian Georgescu, President<br>ag@mmc.ro                                               |
| InterMEDIU, Center for the Civil Society, University of Bacau (IM UB)<br>www.intermediu.ro; inmediu@xnet.ro<br>intermediuubc@yahoo.co.uk                                                          | Prof. Cristina Ichimaş<br>ichimasc@yahoo.com<br>Science Shop Co-ordinator              |
| InterMEDIU, Center of Information and Consultancy (IM UPB)<br>Polytechnical University of Bucharest<br>www.intermediu.ro; intermediu@chim.upb.ro                                                  | Conf. Dr. Rodica Stănescu<br>rodica_stanescu_ro@yahoo.com<br>Science Shop Co-ordinator |

As seen from above, the Romanian Science Shops have very well established partnerships with the national governmental bodies that make requests for various problems, as well as with NGO's. Also they co-operate with national and international similar partners, Science Shops from Groningen, Utrecht (The Netherlands) or with other representatives of the international network of Science Shops (ISSNET).

Since 2003, the Romanian Science Shops representatives have founded a network association called Intermediunet Romania ([www.intermediu.ro](http://www.intermediu.ro)) that has as objectives the support and strengthening of the Romanian Science Shops position in the relation with the civil society and the governmental bodies. Furthermore, the INRO Association organizes meetings and workshops for interested university representatives to establish new Science Shops in Romania.

The Science Shops representatives have expressed their need for networking in terms of intensification of information exchange, real commitment and partnerships between the stakeholders. Also the INRO Network is seen by the

Science Shops representatives as a platform to further develop the relationships with interested groups at local, national and international level.

The means and instruments to develop and strengthen the above mentioned relationships are the common research reports, training and information activities, press conferences and public debates.

In order to achieve the needed networking status at both national and international level the Science Shops interviewees have mentioned that there is an increasing need for financial support to participate at European Conferences and training activities, also for scientific support (access to the European experience in this sector, case studies and educational materials).

Some other topics for international cooperation that are of interest for the Science Shops interviewees are: improvement of the environmental conditions for the community (IM UAIC), waste management (hazardous wastes included), integrated prevention and control of the pollution, cleaner production, initiatives in the field of the environmental impact assessment (e.g. Responsible Care) (IM TIMCED), usage of Science Shops networks for supporting the integration of the Romanian scientific community in European Union (IM UB).

### **3.3 Perspectives and needs for further transnational co-operation**

**By Søsner Brodersen and George Barjoveanu**

Science Shop DTU, the Technical University of Denmark, Lyngby – Denmark  
and InterMEDIU Information, Consultancy and ODL Department,  
'Gh Asachi' Technical University, Iasi, Romania

The basis for this cross analysis is represented by the national analyses of the interviews concerning experiences and future possibilities of transnational co-operation that were carried out as part of the WP4 activities. These interviews focused on four target groups: Non-Governmental Organisations (NGOs),

governmental institutions, scientists, and Science Shops representatives. These target groups have been chosen in order to support co-operation in the field of the pilot project: Sustainable Water Management and Land Use in the four countries that have representatives in the WP4: Austria, Denmark, Germany and Romania.

To establish a common ground for communication and co-operation interviews with the representatives of the four target groups were performed. These interviews focused on information about the activities of the organisation/institutions within the areas of sustainable water management and land use, the interest and needs for participation in a knowledge sharing network.

A general framework to analyse the interviews nationally was developed in order to identify the common aspects of the four groups in the field of sustainable water management and land use (the methodology was presented in Box 2, Chapter 2.4).

Based on the above framework, each WP4 partner analysed their interviews, and the results formed the “**National Analyses of the Interviews**” Reports [see details for the National Reports in the References, available at: [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm)].

The next step was to gather all the information from the national analyses to identify the transnational co-operation opportunities and the premises for establishing a knowledge exchange network formed by the organisations and institutions interviewed as part of the WP4 activities.

The approach behind this cross analysis was to study the four national reports (Austria, Denmark, Germany and Romania), drawing out the main aspects proposed in the framework, which is to:

- Aggregate and centralise the results of the interviews on type of organisations/institutions;

- Identify the most common activity fields and draw up the possible focus of experience and knowledge transfer network;
- Identify the possible co-operation types: same-level type (e.g. NGO-NGO) or provider-client type;
- Identify needs and opportunities for networking and knowledge exchange;
- Identify the incentives that drive these organisations to develop and support activities and to exchange experiences within the field of sustainable water management and land use;
- Identify mechanisms, instruments and potential barriers for co-operation in order to define the role of Science Shops in transnational co-operation.

The main principle of this cross analysis is that co-operation should be based on the interest of the organisations and institutions for co-operation and for sharing knowledge and experiences, as well as on their needs and expertise within the topic of the pilot project.

It should be noted that the conclusions and points made in this cross analysis do not necessary reflect the general tendencies and opinions in the four countries. Had other representatives been selected for interviewing, other conclusions could have been drawn out.

### 3.3.1 The NGO Perspective

#### 3.3.1.1 Presentation of the NGOs

**Table 3.1: NGOs participating in WP4 activities**

| <b>Organisation</b>                                                                     | <b>Country</b> |
|-----------------------------------------------------------------------------------------|----------------|
| The Danish Society for the Conservation of Nature (DN)                                  | Denmark        |
| The Ecological Council (EC)                                                             | Denmark        |
| Greenpeace Denmark                                                                      | Denmark        |
| NOAH - Friends of the Earth Denmark                                                     | Denmark        |
| Academic Organisation of Environmental Engineering and Sustainable Development (AOEESD) | Romania        |
| Association for Ecology and Sustainable Development (AESD)                              | Romania        |
| Earth Friends Association (EFA)                                                         | Romania        |

|                                                                                   |         |
|-----------------------------------------------------------------------------------|---------|
| Aqua Terra                                                                        | Romania |
| Water Watch Tyrol                                                                 | Austria |
| The Environmental and Nature Conservation Association of Germany in Berlin (BUND) | Germany |
| The Nature Conservation Centre Ökowerk, Berlin                                    | Germany |
| The States Working Group Agenda 21 in Nordrhein-Westfalen e.V. (Agenda 21)        | Germany |

## Denmark

The Danish Society for the Conservation of Nature (DN) was established in 1911. Today the organisation has 50 paid staff members and around 140,000 members that work with a broad range of issues concerning nature, the environment, resources and consumption. The Danish Society for the Conservation of Nature co-operates with several environmental organisations from around Europe. Their main partner at the European level is the European Environmental Board (EEB).

The Ecological Council, Denmark, was established in 1991. The two interviewees were originally part of the organisation Øko-Vandspejlet (an NGO addressing water quality), which in 1996 became a part of the Ecological Council. The organisation has no permanent employees, but 8 persons are employed on project funds.

Greenpeace was established in 1971 in Canada, as a protest against the American nuclear bomb blasting in Alaska. The organisation opened its office in Denmark in 1980. Greenpeace Denmark is part of Greenpeace Nordic, together with Sweden, Finland and Norway. Greenpeace Nordic has around 90,000 members and 30 paid staff.

NOAH was established during the 1960ties, as an academic environmental movement. The organisation is based on voluntary work; they have no regular paid staff; however they are occasionally able to employ some of their activists on project funding. The organisation has 1,500 members in Denmark. NOAH is part of the umbrella organisation Friends of the Earth Europe.

## **Romania**

Academic Organisation of Environmental Engineering and Sustainable Development (OAIMDD), Romania, is promoting education and awareness for people with the purpose of improving the public participation in the economical or ecological decision-making processes. Their activities include documentary publications, a specialised journal (Environmental Engineering and Management Journal), books and manuals concerning sustainable development, monitoring programs of sustainable development on local and national scale. The organisation also elaborates technical solutions for understanding the need of sustainable practices and the conservation of the environment.

The NGO Association for Ecology and Sustainable Development (AESD), Romania, is participating in a transboundary co-operation project regarding soil issues with the main task of developing a Pilot Centre for Studies of soils and remediation solutions, and a co-operation project in Iasi County with the Foundation for NGO Partnerships Miercurea Ciuc for the protection of 2 natural reservations.

The activities of Earth Friends Association (EFA), Romania, are related to the awareness of the younger generations concerning the importance of the protection and conservation of water resources, the effects of chemicals used in agriculture on the quality of water and human health.

Aqua Terra, Romania, is developing projects concerning protection and conservation of wetlands in the Prut river basin (Iasi County).

## **Austria**

The Water-watch Tyrol, Austria, is a NGO with 400 active members. Most of them work on a voluntary basis. Generally they are responsible for monitoring lakes, rivers, streams and groundwater. Furthermore they are controlling water quality and in this context have an eye on soil pollution.

## **Germany**

The German branch of Friends of the Earth, Bund für Umwelt und Naturschutz Deutschland (BUND), was founded in 1975 as a federation of pre-existing regional groups. Some local branches date back to 1913. BUND has its origins in the nature conservation movement. Today, the organisation is one of the most influential environmental organisations in Germany. BUND has 390,000 members and supporters. Members are active in some 2,200 local and regional groups, involved with everything from lobbying work to practical nature conservation.

The Nature Conservation Centre Ökowerk Berlin arranges seminars, courses and exhibitions for schools and the public in the area of ecology and eco-political matters. The centre also helps and advises associations with the development of media needed for nature conservation programs: videos, slide-shows, exhibitions, signposts and posters.

### *3.3.1.2 Roles and Activities within the Field of Sustainable Water Management and Land Use*

The general role of NGOs is to represent the basic needs and perspectives of community groups on specific issues. The driving forces of NGOs are the concrete problems that may appear with a direct impact on the community groups that NGOs represent. In this sense, the role of NGOs is very important because they represent the primary link to and from the society being “voice of the people” on certain issues and in consequence they act as means of empowerment in the society. The general ideas may be applied also for the environmental NGOs, which are active in the field of water resources’ and land use sustainability in all four countries that has been assessed.

What is important for this analysis is to identify the experiences that the NGOs in the four countries have had and whether they are able and interested in exchanging, developing and improving these experiences.

The starting point in the research on activities is to get an overview of the NGOs past and present activities (as presented in Table 3.2):

**Table 3.2: Main NGO activities in the field of water resources management and land use**

| Austria                                                                                                                                                                                                       | Denmark                                                                                                                                                                                                                                                                                    | Germany                                                                                                                                                                                                                                                 | Romania                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Monitoring of lakes, rivers, streams and groundwater</li> <li>• Water quality control</li> <li>• Cleaning up of river banks</li> <li>• Technical training</li> </ul> | <ul style="list-style-type: none"> <li>• Dioxin and oil pollution in the Baltic</li> <li>• EU's chemical legislation and EU's pesticide policy</li> <li>• The effect of pesticides on groundwater</li> <li>• Estimations of land use in DK</li> <li>• Campaign for organic food</li> </ul> | <ul style="list-style-type: none"> <li>• Regional involvement of public in water works</li> <li>• Protection of local lakes, rivers and channels</li> <li>• Environmental education</li> <li>• Environmental Consultancy</li> <li>• Forestry</li> </ul> | <ul style="list-style-type: none"> <li>• Environmental educational programs for public participation</li> <li>• Awareness programs</li> <li>• Protection and conservations of wetlands</li> <li>• Soil protection in two natural reservations</li> </ul> |

As it can be observed in table 3.2, the activities that NGOs perform are quite diverse: from monitoring to educational programs and consultancy for environmental issues. The most common activities are related to the protection of regional or local water bodies, where they implement different measures and strategies for conservation/improvement: monitoring, water quality control, and cleaning. Other common aspects are the raising awareness programs, and the training and educational programs for different organisations and persons, which shows that the NGOs serve their primary role, that of working for the benefit of civil society.

### 3.3.1.3 Co-operation and Networking

#### **Co-operation**

All the NGOs represented in the study have diverse co-operation activities with a multitude of other organisations like governmental bodies, other NGOs, Science Shops/ Transfer organisations and scientists. Many of them have international experiences as partners in diverse international projects. For this comparison it is important to identify the types of co-operation that NGO's

support, as well as the mechanisms that drive these co-operations. The most frequent type of co-operation is the NGO-NGO type in which both organisations are on the same level, working together (with different roles) for solving an environmental problem. One example is the co-operation between NOAH in Denmark and other Danish environmental NGOs for debating the nuclear power use, or the co-operation between Ökowerk (Germany) and an umbrella organisation to empower themselves and make statements about environmental issues, and NGO representation in decision making in front of the German official bodies.

NGOs also co-operate with the governmental authorities on certain issues, like the one between the States Working Group Agenda 21 in North-Rhine Westphalia and the state authorities towards the implementation of sustainable management systems for communities and districts.

An interesting co-operation relationship is the co-operation between NGOs and university representatives, because the input from the researchers' side to the NGOs activities gives a scientific fundament to that specific issue. However this does not mean that NGOs do not apply scientific knowledge unless they co-operate with scientists. The interviews indicate that not many of the NGOs co-operate with universities, and one explanation to this was that they are "*self-sufficient*" (DN, DK), which means that NGOs have among their members persons (not necessarily university staff) that can provide them with the needed scientific information for a specific situation. On the other hand there are NGOs that have very strong and fruitful co-operation with universities. Usually, in these cases, the co-operation starts when the NGOs address some problems to the academic community (through Science Shops, for example) and then the co-operation is sustained due to the informal relations that appear. This is the case for NOAH (Denmark) that after a successful co-operation with the Science Shop DTU have formulated more questions and projects to be solved with the help of scientists and students.

Table 3.3 serves the purpose of getting an overview of the co-operation relationships which exists among the NGO representatives participating the in

the WP4 activities. It should be noted that the table only show co-operation examples concerning water management, and does not show a complete picture of the NGOs co-operation relationships.

**Table 3.3: NGO co-operation relationships**

| <b>NGOs</b>                       | <b>Co-operation relationship</b> | <b>NGOs on national level</b> | <b>NGOs on international level</b> | <b>Governmental institutions on national level</b> | <b>Scientists on national level</b> | <b>Science Shops on national level</b> |
|-----------------------------------|----------------------------------|-------------------------------|------------------------------------|----------------------------------------------------|-------------------------------------|----------------------------------------|
| <b>DN, Denmark</b>                |                                  | X                             | X                                  |                                                    | X                                   |                                        |
| <b>NOAH, Denmark</b>              |                                  | X                             | X                                  |                                                    | X                                   | X                                      |
| <b>Greenpeace Denmark</b>         |                                  | X                             | X                                  |                                                    |                                     |                                        |
| <b>EC, Denmark</b>                |                                  | X                             | X                                  |                                                    |                                     |                                        |
| <b>AOEESD, Romania</b>            |                                  | X                             |                                    |                                                    | X                                   | X                                      |
| <b>AESD, Romania</b>              |                                  | X                             |                                    | X                                                  |                                     | X                                      |
| <b>EFA, Romania</b>               |                                  | X                             |                                    | X                                                  |                                     |                                        |
| <b>Aqua Terra, Romania</b>        |                                  | X                             |                                    | X                                                  |                                     |                                        |
| <b>Water Watch Tyrol, Austria</b> |                                  | X                             |                                    | X                                                  |                                     |                                        |
| <b>Ökowerk, Germany</b>           |                                  | X                             |                                    | X                                                  | X                                   |                                        |
| <b>BUND, Germany</b>              |                                  | X                             |                                    | X                                                  |                                     |                                        |
| <b>Agenda 21, Germany</b>         |                                  | X                             |                                    | X                                                  |                                     | X                                      |

As it can be seen from table 3.3, all NGOs represented in this research do have, to some extent, a co-operation relationship with other NGOs at a national level, whereas it is only the NGOs from Denmark which have co-operation relationships with NGOs from other countries. Further it can be observed that all the represented NGOs besides the Danish NGOs have co-operation relationships with governmental institutions.

## **Networking**

The national interviews indicate that the NGOs are part of two different types of networks. The first type of network is that of the big organisations that may themselves represent a network; similar with these is the case of national branches of international environmental organisations. An illustration of this is The Danish Society for the Conservation of Nature (DN), an organisation that has 140,000 members in 216 Local Committees, which are members of the international organisation IUCN – The World Conservation Union, and Greenpeace Denmark – which is the Danish branch of the world-wide organisation Greenpeace.

The other type of network is the one in which NGOs are participants in a network which usually is driven by a specific environmental issue. Table 3.4 presents the network activities of the NGOs representatives represented in this research. It should be noted that the table only show networking examples concerning water management, and does not show a complete picture of the NGOs networks.

**Table 3.4: NGO network activities**

| Austria | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Germany                                                                                                                                                                                                                                                                                                                                                       | Romania                                                     |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| -       | <p><b>Greenpeace Nordic</b> is member of Greenpeace; the International Maritime Organisation; an international network of NGOs working with EU chemical legislation.</p> <p><b>NOAH – Friends of the Earth</b> is member of the umbrella organisation Friends of the Earth Europe; the European Environmental Bureau*; Eco-Group (scientists, NGOs, consultants).</p> <p><b>Ecological Council</b> is member of the European Environmental Bureau*; PAN Europe**, informal network with scientists.</p> | <p><b>BUND</b> is member of an internal network of directors and members; Member in Threat to Nature network; People’s Initiative in Czech and Poland.</p> <p><b>Ökowerk</b> is member in Threat to Nature Network; Various network-like co-operation with other national NGOs.</p> <p><b>Agenda 21</b> is part of the network of local Agenda 21 groups.</p> | <p><b>Aqua Terra</b> – is member of a national network.</p> |

**Notes:**

\* European Environmental Bureau is a European confederation of NGOs that are working to influence the European debate on environmental policy;

\*\* PAN Europe – Pesticide Action Network is a network of European NGOs that works for the abatement of the use of pesticides.

As it can be observed in table 3.4 the best network-represented NGOs are the ones from Denmark and Germany, here the NGOs are represented in both international and national networks. Experiences with both national and international co-operation and network can be an advantage for future

transnational co-operation between NGOs, where these organisations may play the role of catalysts in setting up an international NGO network.

### **Need for Networking**

Another aspect which can be observed in table 3.4 is that NGOs are networking with other similar organisations, where other types of organisations are low represented in their networks (if not absent). The interviewees have also mentioned this aspect and stated the need for networking with Science Shops and Science Shop-alike organisations, as well as with scientists. Most of the interviewed NGO representatives have stated that there is a clear need for the improvement of the NGO – Science Shops co-operation and networking, and many of them have also mentioned the direction for future co-operation. For example, the German NGOs are in the favour of setting up a pool of experts that Science Shops could maintain and that can be addressed anytime an NGO has a specific question. The idea that Science Shops should be the promoter and supporter of knowledge transfer from scientists towards NGOs was also stated by one of the Romanian NGO representatives. Two of the Romanian NGOs (AOEESD and AESD) mentioned an increased need for Science Shop involvement in public debates concerning environmental aspects. This implication, they say, may give a scientific foundation to the statements and issues that they arise.

The German NGOs have suggested a direct networking plan with similar NGOs from the Eastern European countries, especially in Hungary and Romania in the perspective of the EU enlargement. In this way, they say, the role and power of the European NGOs would be enlarged and strengthened.

The NGOs also suggested some types of support that they feel could improve NGO – Science Shops (Scientists) co-operation and networking. For example, the representative from DN suggested that an annual review of research and publications that can easily be accessed by NGOs would ease the work of any NGO, because usually searching for information is very time consuming. In fact, most of the NGOs (AOEESD, AESD, EFA (Romania), Water Watch (Austria)) have stated that they need more logistic support in order to improve

their activities and performance. The German NGOs also approached this issue, stating that the access to environmental information exchange should be improved and they have proposed an online forum where environmental problems and especially water management problems can be discussed.

Table 3.5 gives an overview of the type of networking seen from the perspectives of the NGOs.

**Table 3.5: Overview of support for knowledge exchange and dissemination requested by NGOs**

| <b>Austria</b>                                              | <b>Denmark</b>                                                                                                                                                                       | <b>Germany</b>                              | <b>Romania</b>                             |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------|
| <b>Water Watch Tyrol</b><br>– logistics, and documentation. | <b>DN</b> – review of research and publications in the area of sustainability.<br><br><b>NOAH</b> – network with scientists to include the scientific angle in requests for hearing. | Direct access to information from research. | Documentation, materials, models, experts. |

#### *3.3.1.4 Suggestions for other Themes for Transnational Co-operation/Network*

Apart from the water management and land use theme, the NGOs have proposed some other topics relevant for international co-operation and networking. These suggestions cover a very wide spectrum of issues: dioxin leakages from incinerators (NOAH, DK), nuclear power use in Eastern Europe (NOAH, DK), transport, pesticides and groundwater pollution (Greenpeace, DK), rural development, energy and climate (Greenpeace DK, Aqua Terra, RO) and joint development projects through InterREG or Environmental Relief Programmes of the EU (BUND, Ökowerk, GER).

### *3.3.1.5 Barriers and Limitations for Transnational Co-operation*

Some NGOs mentioned barriers which have to be overcome if a network between scientists, Science Shops and NGOs is to be a success. 1) The NGOs feel that scientists often are afraid of making political statements, unless they are 100 percent sure of their statement, and as one of the representatives expressed, “*when dealing with environmental issues, it is not only a question of scientific evidence, it is a belief and an ideology*”. 2) The NGOs have little time or resources to participate or maintain a formal network between scientists, Science Shops and NGOs. As one of the interviewees expressed “*it is not network which is lacking, but time to participate in the networks*”. Many Danish NGOs are part of national and international networks of NGOs, and therefore they do not feel an urgent need for more networking. The organisations normally know who to contact if they need information or want to share knowledge and ideas with other countries. 3) In organisations based on voluntary work, like in NOAH (DK), it is difficult to set up fixed structures for network and co-operation. In these organisations network relies on personal contacts. 4) NGOs do not contest the information that comes from the scientist through the Science Shops, but if the information is based on student work, then they can have some doubts regarding the credibility of what student-work may provide.

### *3.3.1.6 Interest in Participating in a Pilot Project*

Danish NGOs, except Greenpeace are interested in participating in a pilot project however depending on the focus of the pilot. All Romanian NGOs have announced their interest to participate in a pilot and they have also shown their interest for the Living Knowledge Magazine as a means of knowledge dissemination (after the interviews, the NGOs have requested to receive the newsletter and magazine). German NGOs are interested in participating in a pilot and have shown their availability and interest to conduct practical training activities for the Romanian NGOs (BUND and Ökowerk). The Austrian NGO could envisage its participation in a pilot project.

### *3.3.1.7 Summing up the NGO Perspective*

The NGOs that have been chosen to be represented in this research carry out diverse activities within the area of sustainable water management and land use. A common aspect of their work is water protection activities in given areas such as monitoring, prevention, control and campaigns, as well as awareness, training and educational programmes.

NGOs usually co-operate with all kind of organisations, e.g. other NGOs, official bodies, universities, Science Shops and Science Shop-like organisations. Some of the NGOs have a lot of international experience (mainly in Denmark and Germany) as partners in different co-operation projects. Almost all the NGOs have recognized the important role of the scientific information in their activity. NGOs also feel the need for an easy access to required information and documentation on environmental issues, and the network development that is envisaged should among other aspects address this issue. Some NGOs have expressed that Science Shops should develop, support and maintain these information centres or web tools, where NGOs easily can find scientific information, project proposals and co-operation partners. This need has even been expressed by large NGOs.

The interviewed NGOs representatives have identified some barriers and limitations that need to be overcome when setting up or performing a co-operation/network with Science Shops. The NGOs have limited time and resources to dedicate to network activities, and they face difficulties in maintaining a stable structure for contacts and network.

Except Greenpeace Denmark, all the other NGOs have expressed their availability for participating in a pilot project on sustainable water management and land use. Moreover, the German NGOs have offered to conduct training actions for Romanian NGOs.

### 3.3.2 The Scientist Perspective

#### 3.3.2.1 Presentation of Scientists

**Table 3.6: Overview of scientists participating in WP4 activities**

| University/Department                                                                                                                                                | Country |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Roskilde University Centre, The Department of Environment, Technology and Social Studies (Tek-Samf RUC)                                                              | Denmark |
| The Technical University of Denmark, Environment and Resources DTU (E&R DTU)                                                                                         | Denmark |
| The Technical University of Denmark, Department of Civil Engineering (BYG-DTU)                                                                                       | Denmark |
| Technical University "Gh. Asachi" of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (2 representatives, id. 9 and 11) | Romania |
| Technical University "Gh. Asachi" of Iasi, Faculty of Hydrotechnics (2 representatives, id. 10 and 12)                                                               | Romania |
| Division of Limnology, University of Innsbruck                                                                                                                       | Austria |
| ARGE Limnology, Association of applied Limnology                                                                                                                     | Austria |
| HBLA Kematen, higher education                                                                                                                                       | Austria |
| Institute for Landscape Water Balance                                                                                                                                | Germany |
| Institute for Ecological Spatial Development (IÖR)                                                                                                                   | Germany |
| Technical University of Berlin, Department of Water Management and Cultivation Techniques (WMC)                                                                      | Germany |
| Technical University of Berlin, Institute for Management in Environmental Planning (IMUP)                                                                            | Germany |
| Humboldt University, Institute of Resources and Economy (RE)                                                                                                         | Germany |

#### 3.3.2.2 Work and Experiences in Sustainable Water Management and Land Use

The main activities that scientists carry out within this field of work are related to educational programs, research activities and various thematic projects. The educational programs are designed to provide knowledge and expertise for the ones interested in environmental problems: students, NGOs, representatives of water work companies, sewage companies as well as policy makers in the field of water management and land use.

The main directions of the educational programmes that the interviewed scientists have participated in cover the following issues:

- Public participation in water resources use
- Environmental risk assessment

- Soil decontamination technologies
- Water resources management
- Sewage water
- Urban planning/ Land use

The research activities are mainly related to the improvement of water and wastewater treatment technologies, reuse/recycle opportunities of water resources, development of water quality indicators, remediation of soils, pollution prevention practices and the sustainable use of resources (e.g. water and land).

Another aspect related to the activities of the scientists is their involvement in a multitude of thematic projects, like the projects “Managing sewage in the open land”, a project in which the E&R DTU (DK) representative was project leader and where one of the aims were to develop a guide and a homepage on how to manage the sewage from open land, and the project “*Intermediaries* – New intermediary service and the transformation of urban supply and wastewater disposal systems in Europe”, a project in which the representative from BYG-DTU (DK) explores new forms of organisations for water supply and sewage disposal.

The Romanian scientists have been involved and have been asked to participate in various projects within the fields of: modelling specific environmental protection processes, pollution prevention and practices for waste minimization in industry, and water resources management.

Austrian scientists have adopted a more “social” behaviour in their work for the environment. For example, ARGE Limnology, which is working in the water quality area and monitoring, is publishing its results on a web page. It also provides training courses and maintains a constant dialogue with different interest groups (e.g. NGOs, governmental agencies, and private companies).

German scientists are also involved in a multitude of projects concerning water resource management, for example provisions for flood prevention (IOR

together with partners from the Czech Republic) or the use of water in agriculture (IMUP); an international project together with partners from Poland.

### 3.3.2.3 Co-operation and Networking

#### Co-operation

The interviewed scientists are co-operating as partners in different projects and with many types of organisations, institutions and interest groups. However the most frequent type of co-operation mentioned by the scientists is with other scientists.

Table 3.7 gives an overview of which kind of co-operation relationships the interviewed scientists participates in. It should be noted that the table only show co-operation examples concerning water management and land use, and does not show a complete picture of the scientists' co-operation relationships.

**Table 3.7: Overview of scientists' co-operation relationships**

| Austria                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                             | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Romania                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>ARGE Limnology:</b></p> <ul style="list-style-type: none"> <li>• Communities on regional and national level (national)</li> <li>• Scientists (international)</li> </ul> <p><b>HBLA Kematen:</b></p> <ul style="list-style-type: none"> <li>• Associations, governmental agencies, scientists from the University of Innsbruck and single persons (national)</li> <li>• Partner-school in Italy (international)</li> </ul> <p><b>Division of Limnology:</b></p> | <p><b>E&amp;R DTU:</b></p> <ul style="list-style-type: none"> <li>• BYG-DTU co-operation initiated based on years of co-operation between the two departments (national)</li> <li>• Co-operation (role: voluntary consultant) with the Science Shop DTU and a citizen group</li> <li>• Co-operation with an organic urban community</li> </ul> <p><b>BYG-DTU :</b></p> <ul style="list-style-type: none"> <li>• Research</li> </ul> | <p><b>Institute for Landscape Water Balance:</b></p> <ul style="list-style-type: none"> <li>• Universities (national)</li> <li>• Industry (national)</li> <li>• Public (national)</li> </ul> <p><b>IÖR :</b></p> <ul style="list-style-type: none"> <li>• International scientists</li> <li>• Centre for Competences for Water (national)</li> </ul> <p><b>WMC:</b></p> <ul style="list-style-type: none"> <li>• Scientists from their own university and from other</li> </ul> | <p><b>Department of Env. Engineering and Management :</b></p> <ul style="list-style-type: none"> <li>• Governmental institutions (national)</li> <li>• NGOs (national)</li> <li>• Universities (national and international)</li> <li>• Science Shops (national and international)</li> </ul> <p><b>Faculty of Hydrotechnics</b></p> <ul style="list-style-type: none"> <li>• Governmental institutions (national)</li> <li>• Universities (national)</li> </ul> |

| Austria                                                                                                                                                                                                                                                                                         | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Romania |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <ul style="list-style-type: none"> <li>• EU project: CLIME: NGOs, researchers and communities (international)</li> <li>• Research on Glaciers done in co-operation with local ski-lift operators (national)</li> <li>• NGOs, communities and scientists (national and international)</li> </ul> | <p>Institute in DK, DMU</p> <ul style="list-style-type: none"> <li>• Contact to international researchers working within the same field – personal contact (international)</li> <li>• Students were involved, carrying out some of the research as part of their Master Thesis (national)</li> <li>• Scientists from Germany, UK, Greece and Hungary (national and international)</li> <li>• Co-operation with international intermediaries and housing associations</li> <li>• Co-operation with Danish NGOs</li> </ul> <p><b>Tek-Samf RUC :</b><br/>The DUCED programme:</p> <ul style="list-style-type: none"> <li>• Co-operation with scientists and students from Malaysia, Thailand, and South Africa (international)</li> <li>• Co-operation with media and citizens in the</li> </ul> | <p>universities (national)</p> <p><b>IMUP:</b></p> <ul style="list-style-type: none"> <li>• Partners in Poland (advisory firms and communal institutions – little contact to NGOs) (international)</li> <li>• Scientists from universities (national and international)</li> <li>• The Federal State Environmental Authority (national)</li> </ul> <p><b>ER:</b></p> <ul style="list-style-type: none"> <li>• Ministry of Education: project parallel approach Germany/Turkey (international)</li> <li>• University of Ankara Middle East Technology University (international)</li> <li>• Kubus (national)</li> <li>• Centre for Competences for Water (national)</li> <li>• NGOs (national)</li> <li>• Co-operation with departments in Brazil and Korea (international)</li> </ul> |         |

| Austria | Denmark                                                                                                                                                      | Germany | Romania |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|
|         | three countries (international)<br>• Co-operation with some Danish NGOs (national)<br><br>REBSI: scientists from Thailand, Vietnam, and Laos (international) |         |         |

From the table 3.7 it can be seen that the scientists have contacts with many representatives of civil society, and this show the importance that some scientists give to community-based research. It can also be observed from table 3.7 that some of the scientists have many international contacts and co-operation relationships and this fact may be an advantage for setting up and improving future transnational research co-operation.

### Networking

The interviewed scientists are participating in different types of networks, consisting of other scientists, but also members from NGOs and governmental institutions are represented in the networks of the scientists. Table 3.8 gives an overview of what kind of network the interviewed scientists are members of.

**Table 3.8: Scientists network Involvement**

| Austria                                                                                                                                                               | Denmark                                                                                                                                                              | Germany                                                                                                                                     | Romania                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Division of Limnology:</b><br>• Member of Unesco network 'Bioshärenreservate'<br>• Different scientific networks<br><br><b>ARGE Limnology :</b><br>• Member of the | <b>BYG-DTU :</b><br>• Member of different networks within the field of urban planning, these are consisting of both NGOs and scientists (national and international) | <b>Institute for Landscape Water Balance:</b><br>• International network: Landscape Tomorrow (international)<br>•<br>• GLOWA Elbe program – | <b>Department of Env. Engineering and Management :</b><br>• Living knowledge (international)<br>•<br>• InterMEDIUN ET (INRO) |

| Austria                                                                                                                                                                                                                                                                                   | Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Romania                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>'Water Association' which has an international component (national and to some extent international)</p> <p><b>HBLA Kematen :</b></p> <ul style="list-style-type: none"> <li>• Not member of any network</li> <li>• Sort of network: the schools which they co-operate with</li> </ul> | <p><b>E&amp;R DTU :</b></p> <ul style="list-style-type: none"> <li>• Previously: part of an international network addressing sewage technologies (international)</li> <li>• Presently: part of a network called COST (Co-operation in Science and Technology) (international)</li> </ul> <p><b>Tek-Samf RUC:</b></p> <ul style="list-style-type: none"> <li>• The DUCED programme have lead to a network among the involved scientists (national and international)</li> <li>• Member of an informal network consisting of the universities in DK, who used to be members of the DUCED consortium (national)</li> </ul> | <p>research institutions (national and international)</p> <p><b>IÖR :</b></p> <ul style="list-style-type: none"> <li>• The German Network for Landscape-related Environmental Research (national)</li> <li>• Spatially Research Competence Centre (national)</li> <li>• Dresden Flood Research (national)</li> <li>• Competence Network of Spatially-related Research in Germany in the 4R institute (national)</li> <li>• Chilean-German University Network (international)</li> <li>• Perseus Network (EU project) (international)</li> <li>• European Centre for the Nature Conservation (international)</li> <li>• International Association for Landscape Ecology (international)</li> <li>• Network of Spatial Research Institutes in</li> </ul> | <p>(national)</p> <ul style="list-style-type: none"> <li>• European Water Management Network (international)</li> <li>• International Water Association (international)</li> </ul> |

| Austria | Denmark | Germany                                                                                               | Romania |
|---------|---------|-------------------------------------------------------------------------------------------------------|---------|
|         |         | Central and Eastern Europe (international)<br><br><b>IMUP :</b><br>German Research Society (national) |         |

When it comes to the need for more network activities, the opinions of the scientists differ a lot. While all the Danish interviewed scientists have stated that they do not feel a need for more networking, the Romanian scientists have claimed that there is a great need for improving existing networks and for setting up new ones that should include NGOs and government institutions interested in the field of water management and land use. This was also affirmed by the Austrian and German interviewed scientists which stated that there is a great need for information exchange with officials and NGOs at all levels; local, regional and at the European level.

#### 3.3.2.4 Dissemination

The interviewed scientists recognize the importance of dissemination to the scientific community and the public, and they apply the traditional dissemination methods: meetings, email, conferences, press release, round tables, workshops, courses, publications, and national and international projects. The scientists also mentioned other possibilities of knowledge dissemination: scientific papers – national and international, development of network, unrestricted access to databases with information about research and publication, establishing organisations that can link between partners from different countries in co-operation programs, and a need for bi-directional interaction, e.g. participatory processes.

The Romanian scientists have identified the “*Living Knowledge*” newsletter and magazine as good tools for information dissemination. On the contrary, one German researcher from TU Berlin (D) considers the local press to be

more relevant than the English-language magazine 'Living Knowledge'. The experiences in several project regions show that none of the project partners and citizens in the project region would read an English article. A translation would probably not be read either, because usually only the local papers and notices on notice-boards are read.

One Danish scientist from BYG-DTU (DK) claims that it is difficult to disseminate results of one's own research due to the complexity of the scientific message. Dissemination of results would imply in this case more time and effort to "translate" the results so that they can be understood and used by people outside the scientific community.

#### *3.3.2.5 Suggestions for other Themes for Transnational Co-operation*

The scientists were asked if they had suggestions to topics for transnational co-operation beside within the field of sustainable water management and land use. These suggestions are listed below:

- An investigation/project concerning the driving forces behind urban development in order to get an understanding of how urban areas develop and the mechanisms behind how planning is implemented. A project like the proposed should include researchers which has knowledge about economics because urban and economic development is closely connected. The project could be carried out by people doing urban planning studies and housing economics. The project would involve interviews with investors and developers (BYG-DTU, DK)
- A study investigating why people do not get involved in urban planning. This may only be a project relevant for Denmark. Denmark has a planning law that demands public involvement in urban planning, but the researchers do not think that the public is not interested or concerned with the future of their city (BYG-DTU, DK)
- An investigation of people's perception of water, and the importance of water among ordinary citizens (BYG-DTU, DK)

- A study of the partnerships between farmers and water works companies in groundwater protection (BYG-DTU, DK)
- Co-operation in the field of wastewater reuse and minimization of wastewater load and discharge (Department of Environmental Engineering and Management, RO)
- Human activity (Department of Environmental Engineering and Management, RO)
- Global climate changes' influence on resources, water and soil quality (Faculty of Hydrotechnics, RO)
- Decontamination of lands affected by natural degradation (Faculty of Hydrotechnics, RO)
- Drought control (Faculty of Hydrotechnics, RO)
- A service page (internet) to search for potential partners (ER, D)
- Databank – give an overview of existing Science Shops in the world (IMUP, D)
- Online forum with the aim of presenting new projects and ideas for co-operation (WMC and ER, D)

#### 3.3.2.6 *Barriers and Limitations for Transnational Co-operation*

The interviews with scientists indicate some limitations regarding the use and further development of interdisciplinary and inter-organisational networks, as well as some barriers regarding the dissemination of results from research.

Based on their international experience as partners in different international projects, the German scientists state that it is very difficult to establish direct contacts with persons/organisations in partner countries other than scientists. For these situations co-operation requires an intermediary. Mostly the national scientists take over such a role in transdisciplinary research projects.

Another limitation for international co-operation is related to the difficulty of raising the international interest on local and regional level problems. Also, it is very hard to identify the same type of problems and issues in two or more

regions, given the political, social, cultural, historic and geographical differences.

The language is seen as a barrier by the scientists for both international co-operation and knowledge dissemination. For example a scientist TU Berlin (D) considers that the local press is more endowed for local dissemination than a foreign magazine.

Scientists have also stated the lack of time for “translating” the scientific message of their results of research into a more flexible, customer-oriented language.

#### *3.3.2.7 Interest in Participating in a Pilot Project*

All the scientists have expressed their interest for participation in a pilot project regarding sustainable water management and land use. The Danish scientists conditioned their participation to a limited amount of input of time and resources, and the topic in focus, while the Romanian scientists have identified some means for the starting up and improving co-operation: common thematic projects and use of means for dissemination.

#### *3.3.2.8 Summing up the Scientist Perspective*

The main activities that scientists carry out in this field of work are related to educational programs, research activities and various thematic projects. The educational programs are designed to provide knowledge and expertise for those interested in environmental problems: students, NGOs, representatives of water work companies, sewage companies as well as policy makers in the field of water management and land use.

Scientists usually co-operate with other scientists and researchers in thematic projects. All of the interviewees have international experience due to scientific exchanges, conferences and project participations. Some of the researchers have co-operation with the civil society and some with Science Shops.

The opinions that scientists have regarding the need for more networking differ quite a lot. The Danish representatives do not feel a need for networking, while other interviewees have argued that there is a great need for the development of new networks in which NGOs, governmental institutions and other interested parts should participate in order to broaden and improve the knowledge dissemination.

Some of the limitations that can be drawn from the interviews with the scientists are related to the difficulty of starting up and maintaining direct co-operation with partners in other countries. This includes also the language factor that in many cases represents a restraint.

The interviewed scientists have proposed many other topics relevant for transnational co-operation like: a investigation/project concerning the driving forces behind urban development (BYG-DTU), or a co-operation in the field of wastewater reuse and minimization of wastewater load and discharge (Department of Environmental Engineering and Management, RO), or a service page (internet) to search for potential partners (ER, D).

The interviewees have stated their interest in participating in a pilot project within the field of sustainable water resources management and land use, but some of them (the Danish scientists) conditioned their involvement to depend on the time input, resources and topic.

### 3.3.3 The Government Official Perspective

#### 3.3.3.1 Presentation of the Government Officials

**Table 3.9: Government officials participating in WP4 activities**

| Organisation                                                      | Country |
|-------------------------------------------------------------------|---------|
| Roskilde County, Department for Water Management                  | Denmark |
| Copenhagen Energy, the Water Department                           | Denmark |
| Hvidovre Municipality, the Environmental Department               | Denmark |
| Hvidovre Municipality, the Water Works Company                    | Denmark |
| Water Authority R.A. Apele Romane Iasi                            | Romania |
| Environmental Protection Agency Iasi                              | Romania |
| Public Health and Medical Research Institute                      | Romania |
| Water Works Company Iasi                                          | Romania |
| Amt der Tiroler Landesregierung, Advocacy on Environmental Issues | Austria |
| Berlin Senate Department for Urban Development (BSDUD)            | Germany |
| Federal Institute of Hydrology (FIH)                              | Germany |

The governmental institutions represented cover a wide range of responsibilities within the area of sustainable water management and land use. Thus, there are representatives from three water works companies (two Danish and one Romanian), water and land use management authorities, an environmental protection agency and an environmental consultancy firm.

The water works companies are in charge of water supply in Copenhagen, Hvidovre (Denmark) and in Iasi (Romania). These companies are owned by the municipality and their purpose is to provide high quality products and services to their customers.

The water management authorities are represented by the Department for Water Management in the County of Roskilde (Denmark), Water Authority “RA Apele Romane” (Romania) and the Federal Institute of Hydrology (Germany), while the land use authority is represented by the Berlin Senate Department for Urban Development (Germany).

The Public Health and Medical Research Institute (Romania) is the public body that inspects the issues related to water use in human activities and the toxicological risks of water in human consumption.

### *3.3.3.2 Work and Experiences in Sustainable Water Management and Land Use*

The role of the water works companies is clear: they provide drinking and industrial water for different consumers within their range. Moreover, the Romanian water works company also deals with the municipal and industrial wastewaters and sludge treatment and disposal.

The municipality in Hvidovre (Denmark) and the water works company try to manage the environmental issues in a sustainable manner by joining and combining the efforts of both the customers (civil society and industry) and the authority.

Similarities also appear between the Department for Water Management in Roskilde County (Denmark) and the Water Authority in Romania. Both institutions supervise that the legislation regarding the wastewater discharges is being respected. The Water Authority also has other competencies, like flow regulation, river abatement, drought control and flooding impact reduction, as well as water quality monitoring. The Water Authority is in charge of implementing the Water Framework Directive of the European Union in the Prut River Basin.

The Environmental Protection Agency in Iasi (Romania) is the governmental authority for the protection and monitoring of the environment in the County of Iasi (regional authority) and their work consists in the implementation of the environmental legislation, wastewater monitoring, educational programs for the civil society, industry and local authority representatives. They also develop awareness raising programmes among the public in regards to pollution prevention.

The Public Health and Medical Research Institute (Iasi, Romania) is the control authority in the fields of hygiene, occupational health, epidemiological and toxicology and public health. Their work consists of surveys and control of the environmental factors in public places, as well as issues related to the working environment.

The Advocacy on Environmental Issues (Austria) is a governmental agency, which aims at conserving the nature and at an ecological compatible development of the nature and the landscape in Tyrol, Austria. They inform and support everybody on issues concerning natural protection. In all court proceedings concerning natural protection and environmental issues they plead for the interests of nature. Furthermore they are conducting projects with a focus on natural protection.

The Berlin Senate Department for Urban Development, Germany, is responsible, among other for internal administrative decisions within groundwater at national and European level, as well as for Berlin surface water use. They are further responsible for the development of guidelines for the concepts for lakes, rivers, canals, and banks in Berlin. They also take care of the waterside structure and ecological restoration of water bodies within the Berlin area. Further they develop indicators and maintain databases regarding the quality of the environmental components.

The Federal Institute for Hydrology, Germany, through its „Project Group Ecology of the Elbe“ is responsible to draw up a research concept that will evaluate the ecology of the river Elbe and this activity includes development and maintenance of indicator databases, financial evaluation and the development of a Decision Support System.

### 3.3.3.3 *Co-operation and Networking*

#### **Co-operation**

The Danish governmental institutions which were interviewed co-operate with municipalities and civil society for the improvement of their activities and address when needed the academic community with issues they are not capable of approaching themselves.

The Romanian institutions co-operate with local authorities, the Public Health Institute, and NGOs but this type of co-operation is compulsory in their activities. On special issues they address the universities, as The Public Health Institute that co-operates with the University of Medicine and Pharmacy. A special case is an international co-operation between the Water Authority and similar organisations in France, the Netherlands and the United States.

The Austrian Advocacy on Environmental Issues has no current co-operations, but they used to work together with the University of Innsbruck and the local branch of WWF.

The German institutions have many contacts and co-operations relationships with universities, local authorities, private companies, and Science Shop kubus.

Table 3.10 gives an overview of the co-operation relationships which the governmental officials are part of.

**Table 3.10: Government officials' co-operation relationships**

|                                                   | Gov. inst. -National | Gov. inst. – international | Scientists - national | NGOs and civil society - national | Private companies - national | Science Shops - national |
|---------------------------------------------------|----------------------|----------------------------|-----------------------|-----------------------------------|------------------------------|--------------------------|
| Dep. for Water Man. (Roskilde, DK)                |                      |                            | X                     | X                                 |                              |                          |
| Water Dep. (Copenhagen DK)                        | X                    |                            |                       | X                                 | X                            |                          |
| Env. Dep. (Hvidovre, DK)                          | X                    |                            | X                     | X                                 |                              |                          |
| Water Aut. (Iasi, RO)                             | X                    | X                          |                       |                                   |                              |                          |
| Env. Protection Agency (Iasi, RO)                 | X                    |                            |                       | X                                 |                              | X                        |
| Public Health and Medical Research Institute (RO) | X                    |                            | X                     | X                                 |                              |                          |
| BSDUD (D)                                         | X                    | X                          |                       | X                                 |                              | X                        |
| FIH (D)                                           | X                    | X                          | X                     | X                                 |                              |                          |

### Networking

The governmental institutions have developed little network activities, although some of their activities implies taking part in a network. An illustration of this is the Romanian Water Authority that is part of the National Water Authority Administration, which consists of a consortium of other 10 similar organisations that are organised on a river basin level. Other illustrations are Copenhagen Energy (Denmark) who is part of DANVA, which is a network of municipality owned water works companies, and Advocacy on Environmental Issues (Austria) who has joined the Local Agenda 21 Groups.

Table 3.11 gives an overview of the network which the government officials are members of.

**Table 3.11: Networks which government officials' are members of**

| <b>Austria</b>                                                                  | <b>Denmark</b>                                                                                                                                                                                                                              | <b>Germany</b>                                                                                                                                                          | <b>Romania</b> |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Advocacy on Environmental Issues</b> is participating in a Agenda 21 network | <b>Copenhagen Energy, the Water Department</b> is members of two networks: <ul style="list-style-type: none"> <li>• DANVA – an interest organisation consisting of municipality owned water works</li> <li>• Water works network</li> </ul> | <b>BSDUD</b> is member of two networks: <ul style="list-style-type: none"> <li>• LAWA – a working group on water</li> <li>• The EU Water Framework Directive</li> </ul> | -              |

#### **Need for Network and Scientific Assistance**

All the Romanian governmental authorities feel a need for scientific input in their work, as well as the development of networking activities at local, regional and national scale, stating that it is important to learn from others' experiences and practices. They further raised a need for the involvement and technical support from the Science Shops in order to raise awareness for environmental issues, but also for the implementation of the European legislation (the Water Framework Directive).

In contrast to the Romanian general opinion, the German government officials, through the Berlin Senate Department for Urban Development, have claimed that once the European Water Framework Directive (WFD) will be fully implemented, there will be no further need for network development, since the WFD requires a strong co-operation between the parties that take part in the water management organisational scheme. Though, the German government officials have stated that for now there is a need for more co-operation with NGOs and for this the support from Science Shops will be welcomed. Also,

they have identified as a means of dissemination the start up of a pool of experts in water resources management.

#### *3.3.3.4 Suggestions to Transnational Co-operation*

Only the representatives from Romania had input to topics for transnational co-operation:

- Nature protection
- Monitoring of environmental factors: water, air and soil
- Protection of air quality
- Relationship between environment and health
- Waste management
- Ecological wastes disposal sites

#### *3.3.3.5 Interest in Participating in a Pilot Project*

The representative from Advocacy on Environmental Issues is interested in participating in a pilot project, however the representative is restricted by the capabilities and priorities. For example the representative would be interested in getting critical information on processes, models, and best practice examples.

The representatives from the Romanian governmental authorities have also shown their interest in participation in a pilot project. Furthermore they have stressed the fact that by developing common projects in water management (quality of surface and ground water; improving the monitoring system; harmonising Romanian legislation with the EU standards) it may contribute to the improvement of knowledge dissemination as well as to the development of the water management activities.

The two representatives from the Berlin Senate Department for Urban Development followed absolute different positions, depending on their role in the department. The one involved in most important international networking on WFD does not see a lot of co-operation need expect with scientists or transfer organisations especially asked for concrete solutions. The other,

working in Berlin topics wishes more international contact, but needs language support on this.

#### *3.3.3.6 Summing up Government Official Perspective*

The governmental institutions represented cover a wide spectrum of responsibilities in the field of water management and land use: water supply, legislation enforcement, regulation controls, planning, consultancy and advocacy, activities of structural modifications of the water bodies.

Within their specific activities and responsibilities, governmental institutions co-operate with similar organisations/institutions. Some of them have contact with universities and Science Shops. Network activities have little representation among these institutions; though there are institutions that are part of different networks.

The governmental institutions have stressed the needs for further network, co-operation and for knowledge dissemination.

### 3.3.4 The Science Shop/ Transfer Organisation Perspective

#### 3.3.4.1 Presentation of Science Shops/Transfer Organisations

**Table 3.12: Science Shops/Transfer organisations participating in WP 4 activities**

| Organisation                                                                                                               | Country |
|----------------------------------------------------------------------------------------------------------------------------|---------|
| The Science Shop DTU, Technical University of Denmark                                                                      | Denmark |
| The Science Shop KU – for the Faculty of Social Science and the Faculty of Law at the University of Copenhagen             | Denmark |
| InterMEDIU, Information and Research Center for civil Society, university ‘Al.I. Cuza’ of Iasi Faculty of Biology          | Romania |
| InterMEDIU, Training, Information and Mediation Center for Eco-Development (TIMCED), University of Petroleum-Gas, Ploiesti | Romania |
| InterMEDIU, Center for the civil society, University of Bacau                                                              | Romania |
| InterMEDIU, Center of Information and Consultancy, Politechnical University of Bucharest                                   | Romania |
| Interdepartmental Research Centre (FSP-WIB)                                                                                | Germany |
| Institute for Environmental Analysis (Messzelle)                                                                           | Germany |
| Zumbroich and Müller Planning and Advisory Service (ZMPAS)                                                                 | Germany |
| Science Shop Bonn                                                                                                          | Germany |
| Agenda-transfer Sustainability Agency GmbH (ATSA)                                                                          | Germany |

Both Science Shops participating from Denmark are university-based, but organised in different ways within their respective universities. The Science Shop at the Technical University of Denmark (DTU) (founded in 1985) is affiliated to a department, but is serving the whole university. The Science Shop KU – for the Faculty of Social Science and the Faculty of Law at the University of Copenhagen is affiliated to the administration of a specific faculty and serves only this faculty. The aims of both Science Shops are to provide free access to science and research to civil society organisations by creating contacts between university and civil society organisations and to provide students possibilities for qualifying through co-operation with these groups on ‘real-life’ topics as part of their curricula. The Science Shop at DTU further aims at contributing to the renewal of the education and research at the university.

The Science Shops participating from Romania are all part of the university structures, though related to different departments within the respective universities. All the Science Shops provide an interface between university and society. The main objectives are related to the transfer of knowledge in the field of environmental protection from the university towards civil society structures, the facilitation of public access to expertise within environmental issues, organisation of programmes of environmental education in schools, high-schools or universities, as well as for other community groups, in order to increase environmental awareness and contribute to capacity building of environmental groups. The Science Shops also offer students, in co-operation with other members of academic staff, the possibility to gain experience with project work and co-operation with citizen groups and thereby to develop a practically oriented approach to environmental problems.

Four transfer organisations represent Germany. The aim of the Interdepartmental Research Centre “Water in Urban Areas” (FSP-WIB) is to offer coordination support for interdisciplinary projects from researchers at the TU Berlin and external researchers. The Institute for Environmental Analysis “Messzelle” is an independent non-profit-making organisation but is closely associated with the TU Berlin. ZMPAS is an independent research office conducting planning and give advice on waterways and landscape ecology. The agenda-transfer Sustainability Agency has for the last ten years passed on good examples and experiences to the communities, advised and organised model projects, to make sustainability easier to grasp and to encourage sustainability strategies and sustainability management in local communities.

The fifth organisation representing Germany is the Science Shop Bonn, which is an independent Science Shop, founded in May 1984 and focussing on ecology and environmental protection. It is a non-profit and self-administrated institution with the objective to make science/ scientific results accessible for groups, institutions and individuals (‘knowledge transfer close to the citizen’).

### 3.3.4.2 Work and Experiences in Sustainable Water Management and Land Use

The represented Science Shops/ Transfer organisations have been and are involved in different projects or programmes related to sustainable water management and land use. Table 3.13 gives an overview of which activities the Science Shops/Transfer organisations participate in.

**Table 3.13: The Science Shops/ Transfer organisations activities within the area of sustainable water management and land use**

| Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Romania                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Science Shop DTU:</b><br/>Students / Researchers co-operation:</p> <ul style="list-style-type: none"> <li>• Root zone plant</li> <li>• Managing sewage disposal in the open land</li> <li>• Investigation of sewage treatment plant</li> <li>• Lake restoring and rehabilitation</li> <li>• Organic cotton production in developing countries</li> <li>• Organic sugar production in Denmark</li> <li>• Environmental Space</li> <li>• Organic rice production in developing countries</li> <li>• Brinkholm – a study of sustainability and change</li> </ul><br><ul style="list-style-type: none"> <li>• Mediation and facilitation</li> <li>• Incubator for new research areas at DTU</li> </ul> | <p><b>FSP-WIB:</b></p> <ul style="list-style-type: none"> <li>• Topical training programs</li> <li>• Hydrological cycles and substance cycles</li> <li>• Water management and technological development</li> </ul> <p><b>Messzelle:</b></p> <ul style="list-style-type: none"> <li>• Local solutions for waterside development</li> <li>• Environmental advice</li> <li>• Analysis of tap water and wells</li> </ul> <p><b>ZMPAS:</b></p> <ul style="list-style-type: none"> <li>• Advice on waterways and landscape ecology</li> <li>• Development of internet communication platforms</li> <li>• Carrying out ecological evaluations</li> </ul> <p><b>Science Shop Bonn:</b></p> <ul style="list-style-type: none"> <li>• Land use and the consumption of land use</li> <li>• Development of</li> </ul> | <p><b>InterMEDIU, UAIC Iasi:</b></p> <ul style="list-style-type: none"> <li>• Ecological assessment of the surface waters</li> <li>• Vladeni 2000 – Biodiversity Conservation in the Wetland Vladeni</li> <li>• Documentation of 2 recreation lakes in the Netherlands and Romania</li> <li>• Elaboration of the 'Red List' of endangered species, plants and animals from protected areas with Iasi county</li> </ul> <p><b>TIMCED:</b></p> <ul style="list-style-type: none"> <li>• Educational programmes regarding water management, European legislation in the water section</li> </ul> <p><b>InterMEDIU, Bacau University:</b></p> <ul style="list-style-type: none"> <li>• Programs of ecological education</li> <li>• Training</li> </ul> |

|  |                                                                                                                                                                                                                                                                  |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | <p>sustainability indicators</p> <p><b>ATSA:</b></p> <ul style="list-style-type: none"> <li>• Advice and organising model projects in regards to sustainable management in communities</li> <li>• Sustainable spatial management</li> <li>• Agenda 21</li> </ul> |  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### 3.3.4.3 Co-operation and Networking

#### **Co-operation**

The Science Shops and Transfer organisations represented in this research have multiple contacts, connections and co-operation with various organisations: NGOs, citizens groups, interest groups, government officials, scientists/researchers and other Science Shops. This fact is due to the specific Science Shop role as interface organisation between university and civil society. Usually a citizens group addresses the Science Shop with a need for information or research, and the Science Shop then acts as intermediary between a citizens group that poses a question and university researchers, teachers, or students, who conduct research in response. The role as intermediary means that one of the Science Shop's roles in a co-operation between a citizens group and university researchers/students are to make sure the knowledge exchange takes place between the citizens group and the students/researchers carrying out the investigation, and that the results are understood by the citizens group, enabling them to use the results in their work.

Table 3.14 gives an overview of the Science Shops/ Transfer organisations' co-operation relationships.

**Table 3.14: Overview of Science Shops / Transfer organisations co-operation relationships**

| Denmark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Romania                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Science Shop DTU</b><br/><i>Science Shop and Scientists:</i></p> <ul style="list-style-type: none"> <li>• Scientists as supervisors for the students carrying out Science Shop projects</li> <li>• Science Shop as incubator for new research areas at DTU</li> <li>• Scientists and students from aboard – international research co-operation</li> </ul> <p><i>Science Shop and NGOs:</i></p> <ul style="list-style-type: none"> <li>• NGOs and citizens groups</li> </ul> <p><i>Science Shop and students:</i></p> <ul style="list-style-type: none"> <li>• Normal procedure is that projects are carried out by students</li> <li>• Regular contact with the student though the whole project period</li> </ul> <p><b>Science Shop KU</b></p> <ul style="list-style-type: none"> <li>• NGOs, citizens groups, governmental institutions, and private companies</li> <li>• Scientists approve the projects and students carry out the projects</li> </ul> | <p><b>FSP-WIP:</b></p> <ul style="list-style-type: none"> <li>• NGOs and citizens</li> <li>• Science and regional/national administration</li> <li>• EU partners</li> <li>• Experts</li> </ul> <p><b>Messzelle:</b></p> <ul style="list-style-type: none"> <li>• NGOs and citizens</li> <li>• Science and regional/national administration</li> <li>• kubus</li> </ul> <p><b>ZMPAS:</b></p> <ul style="list-style-type: none"> <li>• NGOs and citizens</li> <li>• Science and regional/national administration</li> <li>• Universities</li> </ul> <p><b>Science shop Bonn:</b></p> <ul style="list-style-type: none"> <li>• NGOs and citizens</li> <li>• Science and regional/national administration</li> <li>• Contact to authorities, e.g. the Water Board</li> </ul> <p><b>ATSA:</b></p> <ul style="list-style-type: none"> <li>• NGOs and citizens</li> <li>• Science and regional/national administration</li> </ul> | <p><b>InterMEDIU, Bacau:</b></p> <ul style="list-style-type: none"> <li>• Environmental Protection Agency, kindergartens, schools and high schools</li> <li>• Governmental institutions</li> </ul> <p><b>InterMEDIU, UAIC Iasi:</b></p> <ul style="list-style-type: none"> <li>• Chemistry Science Shop, Groningen University</li> <li>• Governmental organisations</li> <li>• NGOs</li> <li>• Science Shops at national level</li> <li>• The Biology Science shop at University of Utrecht</li> </ul> <p><b>TIMCED:</b></p> <ul style="list-style-type: none"> <li>• Science Shops at national level</li> <li>• Chemistry Science Shop, Groningen University</li> </ul> |

## **Networking**

The Science Shops and Transfer organisations represented in the research are all part of different kind of formal and informal networks. One example of a formal network is a network between the Danish Science Shops at Zealand. The aim of this network is to co-ordinate information, activities, exchange project proposals and discuss Science Shop experience. One activity was an information campaign aiming at informing the general public through the libraries and civil society organisations about the service the Science Shops offer. The network also co-operates around a magazine called 'Anvendt Viden' (in English: 'Applied Knowledge'), which is published twice a year with articles about experiences from Science Shops projects written by students, Science Shop staff or the civil society "clients". The magazine is distributed to civil society organisations, libraries and internally at the three universities (KU, DTU and Roskilde University). Other examples are a network between scientists, policy makers, NGOs and Science Shops in Denmark, which is an outcome of a scenario workshop held as part of the INTERACTS project; The National Network of InterMEDIU Centres in Romania, InterMEDIUNET; and a scientists' network in Germany concerning sustainable water management.

Internationally the Danish and the Romanian Science Shops mentioned the 'Living Knowledge' network, which they all are members of.

The Science Shops and Transfer organisation also mentioned that they have informal networks with NGOs, scientists and other Science Shops. By informal is meant, that the Science Shops or Transfer organisations know whom to contact if needed.

Although the analysis has pointed out that most of the Science Shops and Transfer organisations represented have both formal and informal network relations, they all mentioned a need for more networking, especially within the areas of:

- Sharing knowledge of projects and investigations both nationally and internationally

- Sustainable water management and land use
- Local network with authorities
- Water use in agriculture, especially focused on the Southern Europe
- Transnational connections to all the other role groups

#### 3.3.4.4 *Suggestions to other Themes for Transnational Co-operation*

As part of establishing transnational co-operation regarding the area of sustainable water management and land use, the Science Shops and Transfer organisations had the following suggestions for such a co-operation:

- Knowledge sharing through conferences or meetings (Science Shop KU, DK)
- A common international Science Shop database (overview of projects available and projects carried out) (Science Shop KU, DK)
- It could be interesting to make comparative studies of Science Shop projects in relation to societal impact and sustainability as an element in research on the contribution of NGOs to societal discourses and influence (Science Shop DTU, DK)
- Comparative studies of organic food strategies in order to analyse the impact of different countries strategies (Science Shop DTU, DK)
- GMO (Science Shop DTU, DK)
- Improving the environmental conditions for the community (InterMEDIU, Iasi, RO)
- Waste management (TIMCED, RO)
- Integrated prevention and control of pollution (TIMCED, RO)
- Cleaner production (TIMCED, RO)
- Initiatives in the field of the environmental impact caused by human activities (TIMCED, RO)
- Using Science Shops networks for supporting and increasing the integration of the Romanian scientific community in European Union (InterMEDIU, Bacau, RO)
- Development of an internationally co-ordinated toolbox for practice and advice (D)

#### *3.3.4.5 Barriers and Limitations for Transnational Co-operation*

Only one barrier for transnational co-operation was mentioned, and this issue was raised by the Science Shop KU (DK). According to their experiences with students at the faculty, they have the impression that their students are not interested in transdisciplinary co-operation neither at national or international level. This however does not mean that the Science Shop KU is not interested, only that it will be difficult for them to involve the students at the faculty.

#### *3.3.4.6 Interest in Participating in a Pilot Project*

All Science Shops and Transfer organisations represented are interested in participating in a pilot project concerning sustainable water management or land use.

#### *3.3.4.7 Summing up the Science Shop / Transfer Organisation Perspective*

The Science Shops represented are all affiliated to a university, whereas the Transfer organisations represented are independent organisations with both formal and informal relations to a specific university. All the representatives' work within the area of sustainable water management and land use, by mediating projects, carrying out projects and/or conducting educational activities.

The Science Shops and Transfer organisations have multiple contacts, connections and co-operations with various organisations, like NGOs, citizens groups, scientists, students, and governmental institutions. Further, all the organisations are members of different types of informal and formal networks.

All representatives are interested in participating in a pilot project both within the areas of sustainable water management and land use, and within the suggested areas mentioned previously.

### **3.3.5 Perspectives for Future Transnational Research Co-operation**

This sub-chapter serves the aim of pointing out the perspectives for future transnational research co-operation between NGOs, scientists, governmental institutions and Science Shops. First the existing co-operation and network relationships among the actors are analysed, leading to a discussion of what kind of co-operation and network relationships there seems to be needed and lacking, as well as which barriers the actors see for future transnational research co-operations.

#### *3.3.5.1 Type of existing Co-operation Relations*

All the interviewed representatives in this study have diverse co-operation activities with a multitude of other organisations/institutions like governmental bodies, NGO's, Science Shops and scientists. Most of the representatives have international experiences as well as being partners in diverse international projects. In this paragraph the aim is to identify which co-operation and network relationships that exists in order to understand which type of relationships that may be lacking and/or needed.

#### **NGO - NGO relations**

The most frequent type of co-operation relationship for the NGOs represented in this study is the NGO-NGO type in which both organisations are on the same level, working together in order to solve or discuss an environmental issue. As it can be seen in table 3.3 all NGOs have a co-operation relationship with other NGOs, however it is only the four Danish NGOs that have co-operation relationships with NGOs at an international level.

In relation to types of networks this study indicates that the NGOs are part of two different types of networks. The first type of network is that of the big national organisations that may themselves represent a network; similar with these is the case of the national branches of international environmental organisations. An illustration of this is The Danish Society for the Conservation of Nature (DN), an organisation that has 140,000 members in 216 Local Committees and that are members of IUCN – The world Conservation Union,

and Greenpeace Denmark – the Danish branch of the world-wide organisation. However these networks could be considered more as umbrella organisations than networks. The other type of network is the one in which NGO's are participants in a network which usually is driven by a specific environmental issue, like the Greenpeace Nordic in the International Maritime Organisation.

### **NGO - Science Shop relations**

This type of co-operation is the most common seen from the perspectives of the Science Shops, even though only four out of the 12 NGOs represented in this study have had a relationship with Science Shops in their respective countries. However Science Shops' main focus group is the NGOs and co-operation and networking with these organisations is what makes the role of Science Shops unique.

According to the experiences of the Science Shop DTU, co-operation and networking with civil society groups can take form either as a long-term co-operation or as a short-term co-operation relationship. The Science Shop DTU has observed that in most cases co-operation with NGOs is based on a long-term relationship, such as the relationship with the NGO NOAH, whereas co-operation with citizen groups is mainly based on a short-term relationship. When a specific problem has been solved, the co-operation between the civil society group and the Science Shop ends.

### **NGO - Scientist relations**

Not many (four out of 12 NGOs) of the NGOs represented in this study cooperate with universities or scientists (table 3.3 gives an overview). One of the Danish NGOs explains that given the fact that the organisation is "*self-sufficient*" (DN, DK), meaning that NGO's have among their members persons (not necessarily university staff) that can provide them with the needed scientific information for a specific situation, they do not feel a further need for co-operation with scientists from universities. In contrast to this statement, this study nevertheless indicates that some NGOs do feel a need for more co-

operation with scientists/universities both in relations to knowledge exchange and dialogue.

Formal network relationship among NGOs and scientists is not common seen from the perspective of the represented NGOs, only two of the Danish NGOs are members of networks including scientists, e.g. NOAH through the Eco-group Network and the Ecological Council through the PAN Europe Network. This is also the case when analysing the network relations based on the information the interviewed scientists have given. Here, it seems as only a few of the scientists are members of formal network including NGO representatives (see table 3.8). However by analysing the co-operation relations based on the perspectives of the scientists, it can be seen that all the scientists have contacts and co-operation with representatives of civil society (see table 3.7).

#### **NGO – Governmental Institution relations**

This study also points towards a co-operation relationship among NGOs and governmental institutions. All NGOs, except the ones representing Denmark, have mentioned that they co-operate with governmental institutions (see table 3.3), and all governmental institutions represented have co-operation relations with NGOs and civil society on a national level (see table 3.10). The represented NGOs and governmental institutions do not take part in any network relations including representatives from the other actor groups.

#### **Scientist - Scientist relations**

As it can be seen in table 3.7 and table 3.8, the most frequent type co-operation and networking relations among the represented scientists are of the type scientist – scientist. All scientists have co-operation or are members of formal/informal network with other scientists at both national and international level.

#### **Scientist - Governmental Institution relations**

Co-operation between scientists and governmental institutions is not a common relation seen from the perspectives of the scientists. As it can be

seen in table 3.7, it is only the German and Romanian represented scientists that seem to have a co-operation relationship with governmental institutions. Seen from the perspective of the represented governmental institutions half of the institutions have co-operation with scientists on regular basis.

### **Science Shop - Science Shop relations**

The Science Shops represented in the research are all part of different kind of formal and informal co-operation and networking relationships. One example of a formal network is a network between the Danish Science Shops at Zealand. Another example of a Science Shop network is the National Network of InterMEDIU Centres in Romania; InterMEDIUNET.

Internationally the Danish and the Romanian Science Shops mentioned the 'Living Knowledge' network, which they all are members of. The Science Shops also participate in different kind of international research projects. One example of a research projects is the INTERACTS projects, aiming at analysing experiences, expectations and recommendations to future co-operation between Science Shops, civil society and universities.

### **Science Shop - Scientist co-operation and networking relationships**

The co-operation between Science Shops and scientists can be described as three different relations: 1) A scientist is supervisor on a Science Shop project, 2) The Science Shop acts as incubator for new research areas at the university, and 3) Science Shop co-operates with scientists and students from abroad (international co-operation).

### **Science Shop - Governmental Institution relations**

This type of co-operation relations is not seen frequently, only two governmental institutions (in Romania and Germany) have stated that they do co-operate with Science Shops.

### **Science Shop - NGO - Scientist - Governmental Institution relations**

Science Shops also takes part in networks consisting of all the actor groups represented in this research. One example is a network between scientists,

policy makers, NGOs and Science Shops in Denmark, which is an outcome of a scenario workshop held as part of the INTERACTS project.

The Science Shops also mentioned that they have informal networks with NGOs, scientists and other Science Shops. By informal is meant that the Science Shops know who to contact if needed.

### **Governmental Institution - Governmental Institution relations**

The most frequent co-operation relation among the governmental institutions is of the type governmental institution – governmental institution. As it can be seen in table 3.10 all the represented governmental institutions have some kind of co-operation relation with other governmental institutions. Three of the institutions (in Romania and Germany) do also co-operate with other governmental institutions on an international level.

The governmental institutions have developed little network activities, and the few networks mentioned all include network with other governmental institutions.

#### *3.3.5.2 Needed Co-operation and Network*

The actors participating in this research project all participate in some kind of co-operation and/or network as discussed in the previous sub-chapter. However they all have stated that they feel a need for more networking, especially network and co-operation between NGOs, Science Shops and scientists has been mentioned.

### **NGO - Science Shops**

Most of the interviewed NGO representatives have stated that there is a clear need for the improvement of the NGO – Science Shops co-operation and networking. Some examples of the needs are 1) The German NGOs are in the favour of setting up a pool of experts that Science Shops could maintain and that can be addressed anytime a NGO have a specific question, 2) The idea that Science Shops should be the promoter and supporter of knowledge transfer from scientists towards NGOs was stated by the Romanian NGO

representatives, and 3) Two of the Romanian NGOs mentioned an increased need for Science Shop involvement in public debates concerning environmental aspects (the needs for co-operation between NGOs and Science Shops are further elaborated in Table 3.15 in the next sub-chapter).

### **NGO - Science Shops - Scientists – Governmental Institutions**

The represented NGOs have also mentioned that NGOs besides experiencing a need for co-operation and networking with Science Shops and Science Shop-alike organisations, they also feel a need for co-operation and networking with scientists.

The NGOs suggested some types of support that they feel would be necessary for the improvement of NGO – Science Shops - scientists' co-operation and networking. For example, the representative from DN (DK) suggested that an annual review of research and publications that can easily be accessed by NGOs would ease the work of any NGO, because usually searching for information is very time consuming. In fact, several of the NGOs (Romania and Austria) have stated that they need more logistic support in order to improve their activities and performance. The German NGOs have also approached this issue, claiming that the access to environmental information exchange should be improved and they have proposed an online forum where environmental problems and especially water management problems can be discussed.

Seen from the perspective of the scientists, the need for more co-operation and network with NGOs and Science Shops differs a lot. While all the Danish interviewed scientists have stated that they do not feel a need for more networks, the Romanian scientists have claimed that there is a great need for improving existent networks and for setting up new ones that include both NGOs, Science Shops, scientists and governmental institutions. This was also affirmed by the Austrian and German interviewed scientists which concluded that there is a great need for information exchange with governmental officials and NGOs at all levels; local, regional and at the European level.

## **NGO - NGO**

Also NGO-NGO co-operation and/or network were mentioned as a need for the NGOs. One example of a need for improving this relationship was mentioned by German NGOs, who suggested network with NGOs from the Eastern European countries, especially with Hungary and Romania in the perspective of the EU enlargement. Through such a network the role and power of the European NGOs would be enlarged and strengthened.

## **Science Shop - Scientists - Governmental Institutions**

The representatives have also pointed towards a need for co-operation and/or network between Science Shops – scientists and governmental institutions. This need was specifically pointed out by the Romanian governmental authorities that feel a need for scientific input in their work, as well as the development of network activities on local, national and regional scale. They further raised a need for the involvement and technical support from the Science Shops in order to raise awareness for environmental issues, but also for the implementation of the European legislation (the Water Framework Directive).

### *3.3.5.3 Barriers and Limitations for Transnational Co-operation*

Improving future transnational co-operation and network also implies that some barriers and limitations have to be overcome.

This study indicates that Science Shops taking up the challenge and role of being mediator for such a transnational co-operation relationship would overcome several of the barriers. For instance the language barrier between scientific language and language understandable for the NGOs could be limited by having the Science Shops securing the process of disseminating scientific results, but also the difficulties the partners can have in establishing contact to other NGOs or scientists in other countries could be overcome by having the Science Shop mediating the contact.

However another limitation mentioned by the scientists that can be difficult to overcome is related to the difficulty of raising international interest on local and

regional level problems. The scientists find it very hard to identify the same type of problems and issues in two or more regions, given the political, social, cultural, historic and geographical differences.

Some of the NGOs also mentioned that they see it as a barrier and limitation in relation to improving co-operation between scientists and NGOs that the scientists are afraid of making political statements in the public. The NGOs also mentioned that even though they all feel a need for more co-operation and network both nationally and internationally, they are limited by the fact that they have very few resources to participate in and maintain formal network relations.

#### 3.3.5.4 *Suggestions to Themes for Future Transnational Research Co-operation*

Based on a wish to make a clear and accessible overview of possible future themes for co-operation, co-operation needs and existing resources, the following table has been developed. Given the fact that most of our interviewees activate in the environmental field, their input and suggestions, as well as their expectations and interests are related to environmental issues.

**Table 3.15: Suggestions to themes for future transnational research co-operation**

| <b>Environmental Theme within the areas of Sustainable Water Management and Land Use</b> | <b>Co-operation needs</b>                                                                                                                                                                                                                                       | <b>Resources for co-operation – stakeholders, institutions, organisations working within the field</b>                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pollution of lakes, streams, rivers and oceans</b>                                    | <b>Information exchange</b><br>Scientists from Austria, Germany and Romania expressed their interests for information exchange with government officials and NGOs (for more information contact: FBI: fbi@reflex.at; kubus: kubus@zek.tu.berlin.de; Intermediu: | <ul style="list-style-type: none"> <li>- Unesco Network – Network of co-operation between UNESCO and the Inter-Parliamentary Union (IPU) (<a href="http://www.unesco.net">www.unesco.net</a>)</li> <li>- Water Associations</li> <li>- Landscape Tomorrow Network – European research network (<a href="http://www.landscape-tomorrow.net">www.landscape-tomorrow.net</a>)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                          | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Pollution of lakes, streams, rivers and oceans</b><br/><i>(continued)</i></p>      | <p>inmediu@ch.tuiasi.ro)</p> <p><b>Scientific input</b><br/>Romanian authorities expresses interest for scientific input in their work (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> | <ul style="list-style-type: none"> <li>- GLOWA - Global Change in the Hydrological Cycle – an example of integrative interdisciplinary and application oriented global change research – A German initiative (www.glowa.org)</li> <li>- European Water Management Network</li> <li>- International Water Associations</li> <li>- Water Works Companies (Romania and Denmark)</li> <li>- Environmental Authorities</li> <li>- The International Maritime Organisation, a network of NGOs working with EU chemical legislation (www.imo.org)</li> <li>- Water-watch Tyrol (www.wasserwacht.at)</li> <li>- Earth Friends Association (earthfriends@rdslink.ro)</li> <li>- Aqua Terra (aquaterr@uaic.ro)</li> <li>- The Danish Society for the Conservation of Nature (www.dn.dk)</li> <li>- Greenpeace Nordic (www.greenpeace.dk)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Industrial Chemistry, Department</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p><b>Pollution of lakes, streams, rivers and oceans</b><br/>(continued)</p>             |                    | <p>of Environmental Engineering and Management (<a href="http://www.ch.tuiasi.ro">www.ch.tuiasi.ro</a>)</p> <ul style="list-style-type: none"> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Hydrotechnics (<a href="http://www.hidro.tuiasi.ro">www.hidro.tuiasi.ro</a>)</li> <li>- ARGE Limnology, Association of applied Limnology (<a href="http://www.limnologie.at">www.limnologie.at</a>)</li> <li>- Institute for Ecological Spatial Development (IÖR) (<a href="http://www.ioer.de">www.ioer.de</a>)</li> <li>- Water Management Authorities</li> <li>- Technical University of Denmark, The Science Shop DTU (<a href="http://www.vb.dtu.dk">www.vb.dtu.dk</a>)</li> <li>- InterMEDIU, Information and Research Center for civil Society, university ‘Al.I. Cuza’ of Iasi Faculty of Biology (<a href="http://www.geocities.com/intermediu">www.geocities.com/intermediu</a>)</li> <li>- InterMEDIU, Training, Information and Mediation Center for Eco-Development (TIMCED), University of Petroleum-Gas, Ploiesti (<a href="http://www.intermediu.ro">www.intermediu.ro</a>)</li> <li>- Interdepartmental Research Centre “Water in Urban Areas” (FSP-WIB) (<a href="http://www.fsp-wib.tu-berlin.de">http://www.fsp-wib.tu-berlin.de</a>)</li> <li>- Institute for Environmental Analysis (Messzelle)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p>(<a href="http://www.tu-berlin.de/~messev">http://www.tu-berlin.de/~messev</a>)</p> <ul style="list-style-type: none"> <li>- Zumbroich and Müller Planning and Advisory Service (ZMPAS) (<a href="http://www.bfua.de">www.bfua.de</a>)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Groundwater pollution</b>                                                             | <p><b>Transnational co-operation</b><br/>Greenpeace Denmark expresses interest for transnational co-operation in relation to addressing groundwater pollution (for more information contact: Science Shop DTU: <a href="mailto:vb@vb.dtu.dk">vb@vb.dtu.dk</a>)</p> <p><b>Information exchange</b><br/>Scientists from Austria, Germany and Romania expresses interest for information exchange with government officials and NGOs (for more information contact: FBI: <a href="mailto:fbi@reflex.at">fbi@reflex.at</a>; kubus: <a href="mailto:kubus@zek.tu.berlin.de">kubus@zek.tu.berlin.de</a>; Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a>)</p> <p><b>Partnership among farmers and water companies</b><br/>A researcher from BYG-DTU (DK) expresses interest for a study of partnership among farmers and water companies in groundwater protection (for more information contact: Science Shop DTU: <a href="mailto:vb@vb.dtu.dk">vb@vb.dtu.dk</a>)</p> | <ul style="list-style-type: none"> <li>- European Water Management Network</li> <li>- International Water Associations</li> <li>- Water Works Companies (Romania and Denmark)</li> <li>- Environmental Authorities</li> <li>- Water Management Authorities</li> <li>- PAN Europe – Pesticide Action Network. A network of European NGOs that works for the abatement of the use of pesticides (<a href="http://www.pan-europe.info">www.pan-europe.info</a>)</li> <li>- NOAH (pesticide policy) (<a href="http://www.noah.dk">www.noah.dk</a>)</li> <li>- Friends of the Earth Europe (pesticide policy) (<a href="http://www.foe.co.uk">www.foe.co.uk</a>)</li> <li>- Greenpeace Nordic (pesticide policy) (<a href="http://www.greenpeace.dk">www.greenpeace.dk</a>)</li> <li>- The Eco-Council (pesticide policy) (<a href="http://www.ecocouncil.dk">www.ecocouncil.dk</a>)</li> <li>- BUND - Bund für Umwelt und Naturschutz Deutschland (Chemical policy)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                             | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <p><b>Groundwater pollution</b><br/><i>(continued)</i></p>                               | <p><b>Scientific input</b><br/>Romanian authorities expresses interest for scientific input in their work (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> | <p>(www.bund.net)</p> <ul style="list-style-type: none"> <li>- Earth Friends Association (earthfriends@rdslink.ro)</li> <li>- Water-watch Tyrol (www.wasserwacht.at)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (www.ch.tuiasi.ro)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Hydrotechnics (www.hidro.tuiasi.ro)</li> <li>- Institute for Ecological Spatial Development (IÖR) (www.ioer.de)</li> <li>- Technical University of Denmark, The Science Shop DTU (www.vb.dtu.dk)</li> <li>- InterMEDIU, Information and Research Center for civil Society, university ‘Al.I. Cuza’ of Iasi Faculty of Biology (www.geocities.com/intermediu)</li> <li>- InterMEDIU, Training, Information and Mediation Center for Eco-Development (TIMCED), University of Petroleum-Gas, Ploiesti (www.intermediu.ro)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                     | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                                                                                          |                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>- Interdepartmental Research Centre (FSP-WIB) (<a href="http://www.fsp-wib.tu-berlin.de">http://www.fsp-wib.tu-berlin.de</a>)</li> <li>- Institute for Environmental Analysis (Messzelle) (<a href="http://www.tu-berlin.de/~messev">http://www.tu-berlin.de/~messev</a>)</li> <li>- Zumbroich and Müller Planning and Advisory Service (ZMPAS) (<a href="http://www.bfua.de">www.bfua.de</a>)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Environmental education/ awareness programs</b>                                       | <b>Technical assistance from Science Shops:</b><br>Romanian authorities expresses interest for technical assistance from Science Shops in order to raise awareness of environmental issues (for more information contact: Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a> ) | <ul style="list-style-type: none"> <li>- Environmental authorities</li> <li>- Agenda 21 groups</li> <li>- The Danish Society for the Conservation of Nature (<a href="http://www.dn.dk">www.dn.dk</a>)</li> <li>- Earth Friends Association (<a href="mailto:earthfriends@rdslink.ro">earthfriends@rdslink.ro</a>)</li> <li>- Academic Organisation of Environmental Engineering and Sustainable Development (<a href="mailto:mmac@ch.tuiasi.ro">mmac@ch.tuiasi.ro</a>)</li> <li>- Roskilde University Centre, The Department of Environment, Technology and social Studies (<a href="http://www.ruc.dk/teksam">http://www.ruc.dk/teksam</a>)</li> <li>- The Technical University of Denmark, Environment and Resources DTU (<a href="http://www.er.dtu.dk">www.er.dtu.dk</a>)</li> <li>- The Technical University of Denmark, Department of Civil Engineering (<a href="http://www.byg.dtu.dk">www.byg.dtu.dk</a>)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <p><b>Environmental education/ awareness programs (continued)</b></p>                    |                    | <ul style="list-style-type: none"> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (<a href="http://www.ch.tuiasi.ro">www.ch.tuiasi.ro</a>)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Hydrotechnics (<a href="http://www.hidro.tuiasi.ro">www.hidro.tuiasi.ro</a>)</li> <li>- HBLA Kematen, higher education (<a href="http://www.hblakematen.at">www.hblakematen.at</a>)</li> <li>- Technical University of Berlin, department of Water Management and Cultivation Techniques (<a href="http://www.tu-berlin.de/fb7/ile/fg-wasserkult/Mit/HD.html">www.tu-berlin.de/fb7/ile/fg-wasserkult/Mit/HD.html</a>)</li> <li>- Technical University of Berlin, Institute for Management in Environmental Planning (<a href="http://www.tu-berlin.de">www.tu-berlin.de</a>)</li> <li>- Humboldt University, Institute of Resources and Economy (<a href="http://www.agrar.hu-berlin.de/wisola/fg/ress/index_e.html">www.agrar.hu-berlin.de/wisola/fg/ress/index_e.html</a>)</li> <li>- Technical University of Denmark, The Science Shop DTU (<a href="http://www.vb.dtu.dk">www.vb.dtu.dk</a>)</li> <li>- InterMEDIU, Information and Research Center for civil Society, university ‘Al.I. Cuza’ of Iasi Faculty of Biology</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                        | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Environmental education/ awareness programs <i>(continued)</i>                           |                                                                                                                                                                                                                                                                                                                                                                           | <p>(www.geocities.com/intermediu)</p> <ul style="list-style-type: none"> <li>- InterMEDIU, Training, Information and Mediation Center for Eco-Development (TIMCED), University of Petroleum-Gas, Ploiesti (www.intermediu.ro)</li> <li>- Interdepartmental Research Centre (FSP-WIB) (<a href="http://www.fsp-wib.tu-berlin.de">http://www.fsp-wib.tu-berlin.de</a>)</li> <li>- Institute for Environmental Analysis (Messzelle) (<a href="http://www.tu-berlin.de/~messev">http://www.tu-berlin.de/~messev</a>)</li> <li>- InterMEDIU, Center for the civil society, University of Bacau (www.intermediu.ro)</li> <li>- Agenda-transfer Sustainability Agency GmbH (ATSA) (<a href="http://www.agenda-transfer.de/gmbh/en/home.html">http://www.agenda-transfer.de/gmbh/en/home.html</a>)</li> </ul> |
| Wastewater                                                                               | <p><b>Wastewater reuse and minimisation</b><br/> A researcher from the Technical University “Gh.Asachi” of Iasi, Department of Environmental Engineering and Management expresses interest for investigations concerning wastewater reuse and minimisation (for more information contact: Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a>)</p> | <ul style="list-style-type: none"> <li>- Water Works Companies (Romania)</li> <li>- Environmental Authorities</li> <li>- The Technical University of Denmark, Environment and Resources DTU (<a href="http://www.er.dtu.dk">www.er.dtu.dk</a>)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (<a href="http://www.ch.tuiasi.ro">www.ch.tuiasi.ro</a>)</li> </ul>                                                                                                                                                                                                                                                                                                                                      |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                        | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Wastewater (continued)</b>                                                            |                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>- Water Management Authorities</li> <li>- InterMEDIU, Information and Research Center for civil Society, university 'Al.I. Cuza' of Iasi Faculty of Biology (www.geocities.com/intermediu)</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul>                                                                                                                                                                                                                                                                 |
| <b>Soil pollution</b>                                                                    | <p><b>Natural degradation</b><br/> A researcher from the Technical University "Gh.Asachi" of Iasi, Faculty of Hydrotechnics expresses interest for investigation concerning decontamination of lands affected by natural degradation (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> | <ul style="list-style-type: none"> <li>- Environmental Authorities</li> <li>- NOAH (www.noah.dk)</li> <li>- Water-watch Tyrol (www.wasserwacht.at)</li> <li>- Association for Ecology and Sustainable Development (palexim@mail.dntis.ro)</li> <li>- Earth Friends Association (earthfriends@rdslink.ro)</li> <li>- Technical University "Gh. Asachi" of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (www.ch.tuiasi.ro)</li> <li>- Technical University "Gh. Asachi" of Iasi, Faculty of Hydrotechnics (www.hidro.tuiasi.ro)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                    | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Rural development</b>                                                                 | <p><b>Transnational co-operation</b><br/>Greenpeace Denmark and Aqua Terra , Romania express interest for transnational co-operation in relation to addressing rural development (for more information contact: Science Shop DTU: vb@vb.dtu.dk; Intermediu: inmediu@ch.tuiasi.ro)</p> | <ul style="list-style-type: none"> <li>- Aqua Terra (aquaterr@uaic.ro)</li> <li>- Agenda-transfer Sustainability Agency GmbH (ATSA) (<a href="http://www.agenda-transfer.de/gmbh/en/home.html">http://www.agenda-transfer.de/gmbh/en/home.html</a>)</li> <li>- Science Shop Bonn (<a href="http://www.wilabonn.de">http://www.wilabonn.de</a>)</li> </ul>                                                                                                                                                                                                                                                         |
| <b>Urban planning</b>                                                                    | <p><b>Transnational co-operation</b><br/>A researcher from BYG-DTU (DK) suggests a transnational co-operation focussing on urban planning, and the perception and importance of water among urban citizens (for more information contact: Science Shop DTU: vb@vb.dtu.dk)</p>         | <ul style="list-style-type: none"> <li>- Different Network for Urban Planning</li> <li>- Technical University of Denmark, Department of Civil Engineering (<a href="http://www.byg.dtu.dk">www.byg.dtu.dk</a>)</li> <li>- Agenda-transfer Sustainability Agency GmbH (ATSA) (<a href="http://www.agenda-transfer.de/gmbh/en/home.html">http://www.agenda-transfer.de/gmbh/en/home.html</a>)</li> <li>- Science Shop Bonn (<a href="http://www.wilabonn.de">http://www.wilabonn.de</a>)</li> <li>- Technical University of Denmark, Science Shop DTU (<a href="http://www.vb.dtu.dk">www.vb.dtu.dk</a>)</li> </ul> |
| <b>Nature Protection</b>                                                                 | <p><b>Scientific input</b><br/>Romanian authorities express interest for scientific input in their work (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p>                                                                                                          | <ul style="list-style-type: none"> <li>- The Danish Society for the Conservation of Nature (<a href="http://www.dn.dk">www.dn.dk</a>)</li> <li>- BUND - Bund für Umwelt und Naturschutz Deutschland (<a href="http://www.bund.net">www.bund.net</a>)</li> <li>- Association for Ecology and Sustainable Development (palexim@mail.dntis.ro)</li> </ul>                                                                                                                                                                                                                                                            |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>- Technical University of Berlin, Institute for Management in Environmental Planning (<a href="http://www.tu-berlin.de">www.tu-berlin.de</a>)</li> <li>- Technical University of Denmark, Science Shop DTU (<a href="http://www.vb.dtu.dk">www.vb.dtu.dk</a>)</li> <li>- InterMEDIU, Information and Research Center for civil Society, university 'Al.I. Cuza' of Iasi Faculty of Biology (<a href="http://www.geocities.com/intermediu">www.geocities.com/intermediu</a>)</li> <li>- Advocacy on Environment (<a href="http://www.tirol.gv.at/landesumweltanwal">www.tirol.gv.at/landesumweltanwal</a>)</li> </ul>                                                          |
| <b>Environmental aspects in general</b>                                                  | <p><b>Networking</b><br/>NGOs expresses their interest for networking with Science Shops and scientists (for more information contact: Science Shop DTU: <a href="mailto:vb@vb.dtu.dk">vb@vb.dtu.dk</a>; Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a>; FBI: <a href="mailto:fbi@reflex.at">fbi@reflex.at</a>; kubus: <a href="mailto:kubus@zek.tu.berlin.de">kubus@zek.tu.berlin.de</a>)</p> <p><b>Support from Science Shops:</b></p> <ul style="list-style-type: none"> <li>- DN Denmark expresses the need for an annual review of research and publications (for more information contact: Science Shop DTU: <a href="mailto:vb@vb.dtu.dk">vb@vb.dtu.dk</a>)</li> <li>- The Romanian NGOs and the Austrian NGO Water Watch express</li> </ul> | <ul style="list-style-type: none"> <li>- NGO-Science Shop- Scientists co-operations and network</li> <li>- Unesco Network (<a href="http://www.unesco.net">www.unesco.net</a>)</li> <li>- Living Knowledge Network (<a href="http://www.scienceshops.org">www.scienceshops.org</a>)</li> <li>- EEB – the European Environmental Board (<a href="http://www.eeb.org">www.eeb.org</a>)</li> <li>- The Danish Society for the Conservation of Nature (<a href="http://www.dn.dk">www.dn.dk</a>)</li> <li>- Roskilde University Centre, The Department of Environment, Technology and social Studies (<a href="http://www.ruc.dk/teksam">http://www.ruc.dk/teksam</a>)</li> <li>- The Technical University of</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <p><b>Environmental aspects in general (continued)</b></p>                               | <p>the need for logistic support (for more information contact: Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a>; FBI: <a href="mailto:fbi@reflex.at">fbi@reflex.at</a>)</p> <ul style="list-style-type: none"> <li>- The German NGOs express a need for an online forum (for more information contact: kubus: <a href="mailto:kubus@zek.tu.berlin.de">kubus@zek.tu.berlin.de</a>)</li> </ul> <p><b>Scientific input</b><br/>Romanian authorities express interest for scientific input in their work (for more information contact: Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a>)</p> <p><b>Formal network between Science Shops</b> with the purpose of:</p> <ul style="list-style-type: none"> <li>- Sharing and exchanging knowledge nationally and internationally</li> <li>- Co-operating within the field of sustainable water management and land use</li> <li>- Initiating local network with authorities</li> <li>- Addressing water use in agriculture</li> </ul> <p>(for more information contact: Science Shop DTU: <a href="mailto:vb@vb.dtu.dk">vb@vb.dtu.dk</a>; Intermediu: <a href="mailto:inmediu@ch.tuiasi.ro">inmediu@ch.tuiasi.ro</a>; FBI: <a href="mailto:fbi@reflex.at">fbi@reflex.at</a>; kubus: <a href="mailto:kubus@zek.tu.berlin.de">kubus@zek.tu.berlin.de</a>)</p> | <p>Denmark, Environment and Resources DTU (<a href="http://www.er.dtu.dk">www.er.dtu.dk</a>)</p> <ul style="list-style-type: none"> <li>- The Technical University of Denmark, Department of Civil Engineering (<a href="http://www.byg.dtu.dk">www.byg.dtu.dk</a>)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (<a href="http://www.ch.tuiasi.ro">www.ch.tuiasi.ro</a>)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Hydrotechnics (<a href="http://www.hidro.tuiasi.ro">www.hidro.tuiasi.ro</a>)</li> <li>- HBLA Kematen, higher education (<a href="http://www.hblakematen.at">www.hblakematen.at</a>)</li> <li>- Technical University of Berlin, department of Water Management and Cultivation techniques (<a href="http://www.tu-berlin.de/fb7/ile/fg-wasserkult/Mit/HD.html">www.tu-berlin.de/fb7/ile/fg-wasserkult/Mit/HD.html</a>)</li> <li>- Technical University of Berlin, Institute for Management in Environmental Planning (<a href="http://www.tu-berlin.de">www.tu-berlin.de</a>)</li> <li>- Institute for Ecological Spatial Development (IÖR) (<a href="http://www.ioer.de">www.ioer.de</a>)</li> </ul> |

| Environmental Theme <u>within</u> the areas of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Environmental aspects in general (continued)</b></p>                               | <p><b>Science Shops as mediators</b><br/>Romanian NGOs express the need for the Science Shops to be promoter and supporter of knowledge transfer from scientists to NGOs (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> <p><b>Science Shops active in public debates</b><br/>Romanian NGOs express a need for Science Shops to become involved in public debates concerning environmental aspects (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> <p><b>Databank</b><br/>German NGOs, Scientists and government officials showed interest for setting-up a pool of experts within the area of water management or environmental issues co-ordinated by the Science Shop (for more information contact: kubus: kubus@zek.tu.berlin.de)</p> <p><b>EU enlargement of NGOs</b><br/>German NGOs showed interest for setting up a network between German NGOs and Eastern European NGOs (for more information contact: kubus: kubus@zek.tu.berlin.de)</p> | <ul style="list-style-type: none"> <li>- Institute for Landscape Water Balance<br/>(www.zalf.de/home_zalf/institute/lwh/lwh)</li> <li>- Science Shop Bonn<br/>(http://www.wilabonn.de)</li> <li>- Technical University of Denmark, Science Shop DTU<br/>(www.vb.dtu.dk)</li> <li>- InterMEDIU, Information and Research Center for civil Society, university 'Al.I. Cuza' of Iasi Faculty of Biology<br/>(www.geocities.com/intermediu)</li> </ul> |

| Environmental Theme <u>outside</u> the area of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                                      | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Urban planning</b>                                                                    | <p><b>Research project</b><br/>A researcher from BYG-DTU (DK) suggests a research project focussing on the driving forces behind urban development and participation in urban planning (for more information contact: Science Shop DTU: vb@vb.dtu.dk)</p>                                                                                                                               | <ul style="list-style-type: none"> <li>- Different Network for Urban Planning</li> <li>- The Technical University of Denmark, Department of Civil Engineering (www.byg.dtu.dk)</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul>                                                                                                                                                                                                                             |
| <b>Air pollution</b>                                                                     | <p><b>Scientific input</b><br/>Romanian authorities expressed the need for scientific input in their work (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p>                                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>- Environmental Authorities</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul>                                                                                                                                                                                                                                                                                                                                         |
| <b>Waste management</b>                                                                  | <p><b>Scientific input</b><br/>Romanian authorities expressed the need for scientific input in their work (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> <p><b>Transnational co-operation</b><br/>Intermediu TIMCED suggests transnational co-operation around the topic of waste management (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> | <ul style="list-style-type: none"> <li>- Environmental Authorities</li> <li>- The Danish Society for the Conservation of Nature (www.dn.dk)</li> <li>- The Technical University of Denmark, Environment and Resources DTU (www.er.dtu.dk)</li> <li>- Technical University “Gh. Asachi” of Iasi, Faculty of Industrial Chemistry, Department of Environmental Engineering and Management (www.ch.tuiasi.ro)</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul> |

| <b>Environmental Theme <u>outside</u> the area of Sustainable Water Management and Land Use</b> | <b>Co-operation needs</b>                                                                                                                                                                                        | <b>Resources for co-operation – stakeholders, institutions, organisations working within the field</b>                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Integrated prevention and control of pollution</b>                                           | <b>Transnational co-operation</b><br>Intermediu TIMCED suggests transnational co-operation around the topic of waste management (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)                 |                                                                                                                                                                                                                                                                                                                        |
| <b>Dioxin leakage from incinerators</b>                                                         | <b>Transnational co-operation</b><br>NOAH suggests transnational co-operation around the topic of dioxin leakage from incinerators (for more information contact: Science Shop DTU: vb@vb.dtu.dk)                | <ul style="list-style-type: none"> <li>- Environmental Authorities</li> <li>- NOAH (www.noah.dk)</li> <li>- Friends of the Earth Europe (www.foe.co.uk)</li> </ul>                                                                                                                                                     |
| <b>Nuclear power</b>                                                                            | <b>Transnational co-operation</b><br>NOAH suggests transnational co-operation around the topic of dioxin leakage from incinerators (for more information contact: Science Shop DTU: vb@vb.dtu.dk)                | <ul style="list-style-type: none"> <li>- NOAH (www.noah.dk)</li> <li>- Friends of the Earth Europe (www.foe.co.uk)</li> <li>- Greenpeace Nordic (www.greenpeace.dk)</li> </ul>                                                                                                                                         |
| <b>Transport</b>                                                                                | <b>Transnational co-operation</b><br>Greenpeace Denmark suggests transnational. Co-operation around the topic of dioxin leakage from incinerators (for more information contact: Science Shop DTU: vb@vb.dtu.dk) | <ul style="list-style-type: none"> <li>- NOAH (www.noah.dk)</li> <li>- Greenpeace Nordic (www.greenpeace.dk)</li> <li>- BUND - Bund für Umwelt und Naturschutz Deutschland (www.bund.net)</li> <li>- Environmental Authorities</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul> |

| Environmental Theme <u>outside</u> the area of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Energy and climate</b>                                                                | <p><b>Transnational co-operation</b><br/>Greenpeace Denmark and Aqua Terra (Romania) suggests transnational. Co-operation around the topic of dioxin leakage from incinerators (for more information contact: Science Shop DTU: vb@vb.dtu.dk; Intermediu: inmediu@ch.tuiasi.ro)</p> <p><b>Research project: Climate changes</b><br/>A researcher from Technical University “Gh. Asachi” of Iasi, Faculty of Hydrotechnics suggests a research project concerning the global climate change influence on resources, water and soil (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)</p> | <ul style="list-style-type: none"> <li>- NOAH (www.noah.dk)</li> <li>- Greenpeace Nordic (www.greenpeace.dk)</li> <li>- BUND - Bund für Umwelt und Naturschutz Deutschland (www.bund.net)</li> <li>- Environmental Authorities</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul> |
| <b>GMO</b>                                                                               | <p><b>Transnational co-operation</b><br/>The Science Shop DTU and NOAH suggests a transnational co-operation focussing on GMO (for more information contact: Science Shop DTU: vb@vb.dtu.dk)</p>                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>- NOAH (www.noah.dk)</li> <li>- Friends of the Earth Europe (www.foe.co.uk)</li> <li>- Greenpeace Nordic (www.greenpeace.dk)</li> <li>- Environmental Authorities</li> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul>                       |

| <b>Environmental Theme <u>outside</u> the area of Sustainable Water Management and Land Use</b> | <b>Co-operation needs</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>Resources for co-operation – stakeholders, institutions, organisations working within the field</b>                                                                |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Environmental conditions in communities</b>                                                  | <b>Transnational co-operation</b><br>InterMediu, lasi suggests a transnational co-operation project concerning the environmental conditions in communities (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)                                                                                                                                                                                 | - Agenda-transfer Sustainability Agency GmbH (ATSA) ( <a href="http://www.agenda-transfer.de/gmbh/en/home.html">http://www.agenda-transfer.de/gmbh/en/home.html</a> ) |
| <b>Cleaner production</b>                                                                       | <b>Transnational co-operation</b><br>The Intermediu TIMCED suggests a transnational co-operation project concerning cleaner production (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)                                                                                                                                                                                                     | - Technical University of Denmark, Science Shop DTU ( <a href="http://www.vb.dtu.dk">www.vb.dtu.dk</a> )                                                              |
| <b>Environmental impact of human activities</b>                                                 | <b>Transnational co-operation</b><br>The Intermediu TIMCED suggests a transnational co-operation project concerning the environmental impact of human activities (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)                                                                                                                                                                           |                                                                                                                                                                       |
| <b>Common international Science Shop database</b>                                               | <b>Database</b><br>The Science Shop KU and researchers and Science Shops in Germany showed interest for an international database co-ordinated by the Science Shops. This database should include projects carried out and projects available. And it should also function as a forum for practice and advise (for more information contact: Science Shop DTU: vb@vb.dtu.dk; kubus: kubus@zek.tu.berlin.de) |                                                                                                                                                                       |

| Environmental Theme <u>outside</u> the area of Sustainable Water Management and Land Use | Co-operation needs                                                                                                                                                                                                                                                                                                                       | Resources for co-operation – stakeholders, institutions, organisations working within the field                                                                                                                                                                               |
|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Comparative studies of Science Shop projects</b>                                      | <b>Transnational research co-operation</b><br>The Science Shop DTU feels there is a need for investigating the societal impact and sustainability of Science Shop projects carried out, in order to analyse the contribution of NGOs to societal discourses and influence (for more information contact: Science Shop DTU: vb@vb.dtu.dk) | <ul style="list-style-type: none"> <li>- Technical University of Denmark, Science Shop DTU (www.vb.dtu.dk)</li> </ul>                                                                                                                                                         |
| <b>The relationship between health and environment</b>                                   | <b>Transnational co-operation</b><br>The Romanian authorities suggest a transnational co-operation focussing on the relationship between health and environment (for more information contact: Intermediu: inmediu@ch.tuiasi.ro)                                                                                                         | <ul style="list-style-type: none"> <li>- NOAH (www.noah.dk)</li> <li>- Friends of the Earth Europe (www.foe.co.uk)</li> <li>- Earth Friends Association (earthfriends@rdslink.ro)</li> <li>- Public Health and Medical Research Institute (www.pub-health-iasi.ro)</li> </ul> |

**3.4 Dissemination tools and events: the WP4 website, national and international workshops, contacts with other networks, publications**

**3.4.1 Transnational Research Co-operation Website**

**By Maria Gavrilescu**

InterMEDIU Information, Consultancy and ODL Department,  
'Gh Asachi' Technical University, Iasi, Romania

The purpose of the WP4 website is to facilitate research and information exchange between ISSNET-WP4 partners, focusing on the WP4 objectives, agenda and actions, materialized by abstracts, articles, interviews, reports, workshops on the theme of the pilot project: *Sustainable Water Management and Land Use*.

The ISSNET WP4 Webpage can be viewed at the following URL:

[http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm) . It is hosted by Living knowledge website, being a place to disseminate and extend knowledge and to foster the free exchange of ideas.

The page was designed in accordance with the format of the Living Knowledge website to ensure continuity in the flow of information.

There were two variants of the WP4 Webpage, designed with the user in mind and considering that information available on the Internet are only useful when people can access them successfully.

The site contains various data referring to different stages of the WP4 project, its development, collaborations and collaborators, partners, institutions, opportunities to launch projects, searching partners, calls for proposals as well as a discussion forum intended for debate and questions.

The WP4 webpage is divided into several sections, outlined below:

- **Home** – this is the main section of the site, with information of general interest and links to various other pages for in-depth coverage of the topics.
- **Objectives** – contains information on what the project as a whole proposes to achieve, as well as the “target groups” to which the project and its results might be of interest.
- **Partners** – this section provides the names, links and information on various institutions and organisations with which the project managers and coordinators have collaborated throughout project development.
- **Pilot Transnational Co-operation** – detailed information of the planning of activities and work involved in carrying out the various stages of the project.
- **Agenda** – the timetable of the project, and steps required to fulfil the schedule
- **Publications** – contains information regarding the reports about the pilot project, as well as what papers and articles have been published within the timetable of the project.
- **Links** – contains links to the Living Knowledge, ISSNET and Interacts Project WebPages
- **Contacts** – here the opportunity is provided to contact the institutions involved in the project, the project coordinator, and many specialists who have given their contribution.
- **Forum** – the discussion forum is hosted by a third-party site and is moderated by the WP4 webmaster. Here the participants of the project can share their opinions, ask questions and debate on various topics.

### **Objectives section**

This section of WP4 website includes a part that detailed the WP4 objectives as well as the groups that are targeted by these objectives.

Detailed objectives refer to:

- Facilitation of transnational research co-operation on the subject: "Sustainable Water Management and Land Use" (pilot project)

- Dissemination and sharing of knowledge and experiences with target groups, identification of the demands of client groups and opportunities for common projects
- Exchange of information /good practices and co-operation among Science Shops and community groups
- Assessment of existing international co-operation projects between Science Shops, universities and community groups and of the possibilities to improve transnational research co-operation
- Design and maintenance of the web page on transnational research co-operation, as well as regular communication in this field through discussion groups
- Identification of other topics and tools for transnational research cooperation
- Generation of other international projects by linking project partners

**Target groups** refer to:

- Science Shops
- Researchers/students
- Community groups (NGOs, associations)
- Universities

**Partners section**

This section shortly presents the WP4 partners:

- InterMEDIU Information, Consultancy and ODL Department, 'Gh Asachi' Technical University, Iasi, Romania
- Science Shop DTU, the Technical University of Denmark, Lyngby – Denmark
- kubus (The Cooperation and Consulting Centre for Environmental Questions), Technical University Berlin, Germany
- Institut für gesellschaftswissenschaftliche Forschung, Bildung und Information (Institut FBI), Innsbruck, Austria
- Wissenschaftsladen Bonn (WilaBonn), Bonn, Germany

These presentations include information on partners' current activities as well as their implication in several other international Science Shop projects, e.g. MATRA, SCIPAS, INTERACTS and TRAMS.

The e-mail accounts of the contact persons are also provided.

***Pilot Transnational Cooperation section***

The information included in this section is focused on some significant aspects:

- *Cooperation on SUSTAINABLE WATER MANAGEMENT AND LAND USE*, underlying one of the main issues required by the FP6 programs, that effective communication and dissemination of scientific results is to be made more accessible to the communities. That explains the potential of this subject for further investigation and co-operation.
- *Motivation*, that fundaments the reasons for the approaches of WP4:
  - all partners in WP4 have mentioned their experience and interest in participation
  - Science Shop Bonn was also interested in joining for aspects related to sustainable land use
  - it is a subject that has a good potential for further co-operation between Science Shops with different organisation forms (university or non-university based) community groups and universities in the international or national context
  - presents an interesting research component so as to allow participation of students/researchers or in connection to projects developed in the Agenda 21 framework
- *Description of work*, offers information on subjects, evaluation and dissemination of results, highlighting the fact that the workgroup will develop a pilot on environmental cooperation and will facilitate sharing of experiences and enhance knowledge build-up, documentation and cooperation among science shops and community groups, improving thus collaboration for sustainable environmental actions in different European regions.

- *Working plan* presents the main steps in WP4 objectives achievement and offers some links to other sections that contains some outcomes of the pilot projects: WP4 Forum, publications, reports, LK network and magazine, 2<sup>nd</sup> LK Conference.
- *Contacts with WP4 coordinator and local partners*

### **Agenda section**

In this section the activities within WP4 are detailed and the deadlines are also included. It is designed based on Technical Annex.

### **Publications section**

There are two types of publications taken into account:

**Reports on the pilot project** “Sustainable Water Management and Land Use” that consists of:

- Analysis of interviews for pilot project “Sustainable Water Management and Land Use”
- Austrian case study report
- Danish case study report
- German case study report
- Romanian case study report
- Recherche zu Kooperationen im Bereich nachhaltiges Wassermanagement und nachhaltige Landnutzung (*Research for cooperation in the field of sustainable water management and land use*) kubus
- Report on Study Period at Technical University of Denmark (March – May 2004), “Sustainable Water Management. Assessment for the Prut River Basin, Romania”

**Papers published**, that contains papers published in Environmental Engineering and Management Journal and in Living Knowledge - Journal of Community Based Research (LK), within WP4 topics.

The other sections: *Links*, *Contacts*, *Forum* are presented shortly above.

### **3.4.2 Network meeting on Sustainable Water Management in Austria**

**By Andrea Gnaiger and Gabriela Schroffenegger**

Institut für gesellschaftswissenschaftliche Forschung, Bildung und Information,  
Innsbruck, Austria

Supplementing the results of the semi-structured interviews focusing on existing transnational research co-operations and expectations the FBI-Centre organised a network meeting on sustainable water management. The idea to organise a network meeting was brought up by interview partners expressing a strong request to strengthen networking on a local and regional level. In the run-up of the network meeting a press conference with the deputy major of Innsbruck and leading regional experts on water issues took place. As the topic water is generally considered as very important the press conference did attract a lot of attention and as an immediate result led to two articles in regional and local newspapers. Furthermore it was a great opportunity to introduce the project ISSNET to a broader public and to announce the network meeting.

The network meeting which brought together politicians, a governmental agency, representatives of NGOs, students from a comprehensive secondary school (HBLA Kematen), and members of the University of Innsbruck working on the topic water (all together 18 participants) took place on November 17<sup>th</sup> 2004 in a community centre in Innsbruck. The official introduction by a councilwoman of Innsbruck was followed by a students (HBLA Kematen) power point presentation of a project on sustainable water management in the community of Kematen, called "moving water".

The second part of the meeting provided in-depth information on the project ISSNET, on WP4 and on the result of the interviews. The last hour of the meeting was reserved for discussions, exchange of information and networking. A very specific contribution to the meeting was the donation of the "100 water shop" which provided the participants with various different kinds of bottled water.

The participants were very pleased with the meeting and its results. They considered this kind of event as very valuable and useful. They discussed the

possibilities for networking (on a regional and international level), for joint projects and the further exchange of knowledge. They came up with concrete proposal for co-operation. For example: Representatives of the Water Watch Tyrol offered to organise a teaching unit on the topic water, which was gladly accepted by the teacher and the students. The students announced that they would have capacity to work on new projects, which was of interest for the NGO Natopia, who has many topics of general interest to work on, on stock, but very limited resources to do so.

It was further pointed out, that in Tyrol there is an increased awareness on the value of water. Due to its vast experience with water management and its caring and sensitive handling of water resources it could play a key role and set standards in water management.

In the further discussion two possible topics for an international co-operation evolved.

**First topic:** To raise public awareness on the precious good water. To bring to ones mind the importance and the value of water.

**Second topic:** How to Transfer Knowledge on the topic water?

### **3.4.3 WP4 workshop at the 2<sup>nd</sup> Living Knowledge Conference, Seville, Spain**

**By Kirsten von der Heiden and Carmen Teodosiu**

The Cooperation and Consulting Centre for Environmental Questions (kubus), Technical University of Berlin, Berlin, Germany and InterMEDIU Information, Consultancy & ODL Centre, “Gh. Asachi” Technical University of Iasi, Romania

The WP4 partners organised a workshop with the occasion of the 2<sup>nd</sup> Living Knowledge Conference “*Advancing Science and Society Interactions*”, held in Seville, Spain on February 3-5, 2005. The workshop is a deliverable of the ISSNET project and was organised as a parallel session, i.e. **Session II.1 “Opportunities in Environmental Sciences” (ISSNET WP4 Workshop)**.

Date of the session: 4th February 4:45 p.m. – 7:15 p.m.

*Chaired by:* Prof.dr. Carmen Teodosiu – “Gh.Asachi” Technical University of Iasi, Romania (InterMEDIU Information, Consultancy and ODL Department), e-mail: cteo@ch.tuiasi.ro

*Rapporteur:* Kirsten von der Heiden, assistant scientist, Science Shop ‘kubus’, k.heiden@zek.tu-berlin.de

The workshop concept as well as initial questions for discussion have been developed by the WP4 group before the session and discussed at an internal WP4 meeting at 2nd February 2005 in Seville. An internal session minute has been written during and after the session by Kirsten von der Heiden (Science Shop ‘kubus’).

### **Objectives of the session**

- Introduction on and dissemination of WP4 research activities and findings, especially related to environmental topics and the WP4 pilot project.
- Presentation of papers submitted to the LK conference within the environmental field
- Discussion of opportunities to enhance research co-operation at transnational level developed on themes requested by community groups

The following workshop questions have been addressed to all the participants as input for the discussions during the sessions:

1. Ideas for thematic co-operation
2. Specific offers and needs for thematic co-operation
3. Barriers perceived in the co-operation between NGOs, Science Shops and universities
4. Support envisaged by the ISSNET.

An introduction of the ISSNET WP4 activities was presented by Carmen Teodosiu, who summarised the current preoccupations related to the pilot project *Sustainable Water Management and Land Use*, as well as other examples of transnational research co-operation, common experiences and

problems in thematic co-operation. The role of the ISSNET group and of the workpackage refer to the effective linkage of interested partners in thematic co-operation so as to enhance knowledge transfer, experience sharing and co-operation between the scientific and society groups in different countries. It became obvious that funding is a huge bottleneck. However, the ISSNET-group offers have been opened to the participants, e.g.: web-participation by the discussion forum, by co-operation with WP4 Science Shops and their thematic partners/networks. The ideas related to the enlargement of thematic transnational co-operation with other topics such as social research, minorities, gender problems, health care, etc. were also addressed. Due to the conference organisation, this session hosted also presentation of papers in the environmental field. Four invited speakers followed, each with a 7 minute speech and followed by fruitful discussions.

**Session speakers invited:**

- CHRIS FEURT – Co-ordinator, Wells National Estuarine Research Reserve, USA, e-mail: cfeirt@wellsnerr.org
- GEORGE BARJOVEANU, Science Shop co-ordinator, InterMEDIU Information, Consultancy and ODL Department, Technical University of Iasi, Romania, e-mail: gb@ch.tuiasi.ro
- BALÁZS BÁLINT, researcher, Institute of Environmental and Landscape Management, St. István, University Gödöllő, Hungary, e-mail: balazs@suvet.hu
- KRISCHAN OSTENRATH, researcher, Wissenschaftsladen Bonn, Germany, e-mail: krischan.ostenrath@wilabonn.de

Summaries of contributions/ speeches of around 7 minutes each can be found as 1-2 pages abstracts at T. Rojo, Eds.: "Advancing Science and Society Interactions" 2005, pp. 270; pages of speakers' abstracts see table 3.16. Full papers are published in the 2<sup>nd</sup> Living Knowledge Proceedings "Advancing Science and Society Interactions", 2005 (Editor Norbert Steinhaus).

**Table 3.16. Summary of the contributions to the WP4 workshop**

| Name                                                                     | Organisation                                                                                                        | Function                                                                                                                                                                                                       | Title of speech                                                                                              | Speech                                                                     |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Carmen Teodosiu, Chairperson of the session environment                  | InterMEDIU Information, Consultancy and ODL department; TU of Iasi, Romania                                         | Professor, chair of the session 'Environment', co-ordinator of the WP4 EU ISSNET project of the International Science Shop Network                                                                             | Introduction to WP4 objectives and activities and workshop questions                                         | Co-author of Speech 1                                                      |
| Kirsten von der Heiden, rapporteur and minute of the session environment | Science Shop 'kubus', Co-operation and Consulting for Environmental Questions, Technical University Berlin, Germany | Scientific assistant in several EU projects: Interacts, ISSNET of the International Science Shop Network,                                                                                                      | Speech see session networks, page 183-185                                                                    | 2 Posters, pages 260-261, 267-268 and beamer presentation ZEK at the booth |
| George Barjoveanu                                                        | InterMEDIU Information, Consultancy and ODL department; TU of IASI, Romania                                         | Team Prof. Carmen Teodosiu, doing a master at Danish University DTU funded by Erasmus                                                                                                                          | Romanian perspectives on partnerships in sustainable water management and land use, abstract page 108-109    | Speech 1                                                                   |
| Christine Feurt                                                          | Wells National Estuarine Research Reserve, University New England (USA)                                             | PhD student, „The reserve“, National Estuarine Research Reserve System (NERRS) of the USA = Network of 26 marine protected and representative areas (since 1972). Additionally in Puerto Rico and Main, see cv | A model for collaborative community conservation, abstract page 119-121                                      | Speech 2                                                                   |
| Krishan Ostenrath                                                        | Science Shop Bonn, Germany                                                                                          | Staff member at the German Science Shop Bonn in North- Rhine Westphalia                                                                                                                                        | From information to participation: visualisation of land use change in the state of North Rhine- Westphalia, | Speech 3                                                                   |

|                   |                                                                                                                |                                                                                                                                  |                                                                                                            |                       |
|-------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------|
|                   |                                                                                                                |                                                                                                                                  | abstract page<br>108-109                                                                                   |                       |
| Bálint Balázs     | Institute of<br>Environmental<br>and Landscape<br>Management, St.<br>István, University<br>Gödöllő,<br>Hungary | Master in Sociology and<br>History, Uni Budapest,<br>second PhD in Gödöllő,<br>environmental History,<br>environmental Sociology | Participatory<br>community<br>development<br>in the south<br>Borsod<br>Region,<br>abstract page<br>113-115 | Speech 4              |
| Bela Gyorgyi      | Institute of<br>Environmental<br>and Landscape<br>Management, St.<br>Istvan, University<br>Gödöllő,<br>Hungary |                                                                                                                                  | See above<br>Bálint Balázs                                                                                 | Co-author<br>speech 4 |
| Pataki<br>Gyorgyi | Institute of<br>Environmental<br>and Landscape<br>Management, St.<br>Istvan, University<br>Gödöllő,<br>Hungary |                                                                                                                                  | See above<br>Bálint Balázs                                                                                 | Co-author<br>speech 4 |
| Anke<br>Valentin  | Science Shop<br>Bonn, Germany                                                                                  |                                                                                                                                  | See above<br>Krishan<br>Ostenrath                                                                          | Co-author<br>speech 3 |

**Session participants' fluctuation:**

At 5 p.m. there were 31 participants, (including the WP4 and other ISSNET members).

Status at the end of the session: at 7:15 p.m. there were 30 participants. The following participation table is meant for future exchange options and cooperation.

**Table 3.17. Participants at the parallel session II.1 “Opportunities in Environmental Sciences” (ISSNET WP4 Workshop)**

| No  | Name                  | Position                   | Organisation                                                   | e-mail                         |
|-----|-----------------------|----------------------------|----------------------------------------------------------------|--------------------------------|
| 1.  | Maelys De La Rupelle  | Master Student             | Science Shop Cachan, France                                    | maelysdlr@yahoo.com            |
| 2.  | Anders Jacobi         | Project Manager            | Danish Board of Technology                                     | aj@tekens.dk                   |
| 3.  | Kirsten Kossen        | Programme Officer          | ANPED Northern Alliance for Sustainability                     | kkossen@anped.org              |
| 4.  | Nastasja Hulst        | Project Officer            | European Centre for Nature Conservation                        | hulst@ecnc.org                 |
| 5.  | Marc Zitzen           | Project Co-ordinator       | Science Shop Utrecht                                           | m.l.zitzen@bio.uu.nl           |
| 6.  | Cristina Mertl        | Co-ordinator               | TIMCED – InterMEDIU                                            | omi@mmc.ro                     |
| 7.  | Adrian Curaj          | Director                   | Agency for Higher Education and Research Funding Romania       | adrian.curaj@uefiscsu.ro       |
| 8.  | Didac Ferrer Balas    | Co-ordinator               | Environmental office – technical University of Catalonia Spain | didac.ferrer@upc.es            |
| 9.  | Luis Andreu Caceres   | Researcher                 | Seville University                                             | landreu@us.es                  |
| 10. | Mieke De Lathouwers   | Staff Member               | Science Shop University of Antwerp                             | Mieke.delathouwers@ua.ac.be    |
| 11. | Sofie van der Bossche | Project Co-ordinator       | Science Shop Free University of Brussels                       | ssvdbpss@vub.ac.be             |
| 12. | Edith Donders         | Staff Member               | Science Shop Free University of Brussels                       | Edith.donders@vub.ac.be        |
| 13. | Gerard Straver        | Co-ordinator               | Science Shop Wageningen                                        | Gerard.straver@wur.nl          |
| 14. | Ginette Lajoie        | Environmental co-ordinator | Cree Regional authority                                        | glajoie@gcc.ca                 |
| 15. | Fatos Yurman Vural    | Assistant President        | ME TU Turkey                                                   | vural@ceng.metu.edu.tr         |
| 16. | Ayfer Toppare         |                            | Middle East Technical University (METU)                        | ayf@metu.edu.tr                |
| 17. | Nuno Banza            | Environmental Co-ordinator | Municipality of Barreiro – PT                                  | Nuno.banza@cm-barreiro.pt      |
| 18. | Hiroshi Ietaka        |                            | Osaka University                                               | h.ietaka@libra.livedoor.com    |
| 19. | Norbert Steinhaus     |                            | Science Shop WillaBonn                                         | norbert.steinhaus@willabonn.de |
| 20. | Janusz Fijak          |                            | Politechnika Opolska                                           | ifijak@po.opole.pl             |
| 21. | Ion Draghici          |                            | Soltrade SRL Romania                                           | ion.draghici@soltrade.ro       |

|    |                           |                        |                                     |                                                |
|----|---------------------------|------------------------|-------------------------------------|------------------------------------------------|
| 22 | Eelke Wielinga            |                        | Link – Consult/ LEI – WUR           | hewielinga@cs.com                              |
| 23 | Camelia Draghici          |                        | INRO Brasov Romania                 | c.draghici@unitbv.ro                           |
| 24 | Mihaela Sica              |                        | INRO Brasov Romania                 | m.sica@unitbv.ro                               |
| 25 | Margriet Samwiet          | Co-ordinator           | WECF                                | margriet@wecf.org                              |
| 26 | Caspar de Bok             | Co-ordinator           | Science Shop Biology                | c.f.m.debok@bio.uu.nl                          |
| 27 | Manon Vaal                | Co-ordinator           | Science Shop Biology                | m.a.vaal@bio.uu.nl                             |
| 28 | Andrea Gnaiger            |                        | Institut FBI                        | fbi@reflex.at                                  |
| 29 | Gabriella Schoffenegger   |                        | Institut FBI Innsbruck Austria      | fbi@reflex.at                                  |
| 30 | Michael Sogaard Jørgensen | Co-ordinator           | Science Shop DTU, Denmark           | msj@ipl.dtu.dk                                 |
| 31 | Martin Armel              | Ph.D. Student          | Science Shop Cachan, France         | armel.martin@crans.org                         |
| 32 | Kirsten von der Heiden    | Ph.D. Student + ISSNET | Science Shop 'kubus' Berlin Germany | kvdheiden@yahoo.de<br>kheiden@zek.tu-berlin.de |

#### **3.4.4 Session on "Agriculture and Forestry" at the Living Knowledge Conference**

##### **By Kirsten von der Heiden**

The Cooperation and Consulting Centre for Environmental Questions (kubus), Technical University of Berlin, Berlin, Germany

The German Science Shop 'kubus', namely Kirsten von der Heiden, researcher on Agricultural Knowledge Systems (AKS) of sustainable agriculture, worked out the concept for a parallel session on "Agriculture and Forestry" at the 2nd Living Knowledge conference in Seville. The session had been foreseen (at Friday 4th, 2005) as part of the parallel sessions on 'Practical experiences' by the international committee, had been cancelled by the local committee and taken place as an ad-hoc meeting point at the booth.

The idea for such a session on the topics of agriculture and forestry arose based on received submitted proposals that have been clustered by the local and international committee. 'kubus' received 8 proposals (from Africa, Brazil, Germany, Hungary, Mexico and Spain), as print copies in December 2004, at the Brussels Science Shop meeting to work out and co-ordinate the session.

Dr. ir H.E. WIELINGA, LINK consult, coach and researcher on knowledge, networks and leadership in the Netherlands had been won as potential facilitator.

**Foreseen content of the session:**

Focussing on sustainable agriculture and forestry the session wants to improve the exchange on learning and networking experience, activities and potential in rural areas as well as participatory methods used.

**Key Questions:**

- How can we push further Community Based Research on agriculture and forestry?
- How can we establish multi-stakeholder learning systems in rural areas?
- How can we strengthen capacity of farmers and rural citizen in decision making processes?
- Which strength and weaknesses do our participatory methods have?
- How to integrate public goods issues into agricultural and forestry practice?

**Ad-hoc meeting point “agriculture and forestry” at the booth:**

The booth gave space for an ad-hoc meeting point on agriculture and forestry and to get into contact with those working on those topics present. Visiting cards have been exchanged to keep contact about ideas and activities of future projects. A networking potential showed up during the conference and a starting point to take up an old Science Shop subject is done. The theme “agriculture and forestry” has been suggested March 16th, 2005 for the new structure of the Living Knowledge discussion forum towards Caspar de Bok, Science Shop for Biology, Utrecht University, co-ordinator of ISSNET. Contact person for networking on “agriculture and forestry” will stay Kirsten von der Heiden (kvdheiden@yahoo.de), planning to extend Science Shop work about this topic in Berlin and Brandenburg based on her PhD data.

### **3.4.5 Symposium in Berlin on Water: Trading good – weapon – human right?**

**By Kirsten von der Heiden**

The Cooperation and Consulting Centre for Environmental Questions (kubus), Technical University of Berlin, Berlin, Germany

#### **Conference held at February 9th, 2005 in Berlin, Germany**

The documentation of the Berlin conference on water has been written for dissemination by Kirsten von der Heiden & Frank Becker, Science Shop 'kubus' by means of the Living Knowledge magazine No. 5 - International Journal of Community Based Research.

The thematic conference on "Water: Trading good – weapon - human right? Ways towards a sustainable water management" has been initiated, organised and co-ordinated as a broad public discussion by the two departments of the Centre for Co-operation, TU Berlin: 'koop' (Co-operation between science and the working world) and the Science Shop 'kubus' (Co-operation and consulting for environmental questions). The conference was held in co-operation with the 'reuse computers association', sponsored by Hans Böckler Stiftung and with support by external partners (organisation: Dr. Michael Barsig; facilitation: Dipl. Ing. Sven Aden). It is part of the working field "Dialogue between Science and Society".

The symposium with comprehensive facets of the different foci on the theme has attracted 150 participants of several organisation types, including members of the Federal Parliament, civil servants of different administration levels, the trade-union 'ver.di', several NGOs, representatives of waterworks, researchers from scientific institutes of several universities and applied research centres, as well as private persons. By means of an actual tv-documentation "Blue Gold" (about social conflicts on drinking water supply) and speeches including questions by the auditorium a vivid atmosphere arose as well as lively discussions during the plenary, breaks and poster session.

Keynote speakers have been Dr. Waltina Scheumann, Technical University Berlin getting down to the problem of water as strategic resource; M.sc. (econ.) Britta Pielen of Ecologic-Institute for International and European Environmental Policy referring about the effects of the European Liberalisation tendency on the German water market; Dipl. Ing. Karsten Schischke, Technical University Berlin, telling us about the important links between ICT production processes and the water and energy (ab)use as well as alternative strategies, e.g. reusing computers and Dipl. Ing. Mathias Ladstätter, trade union 'ver.di' proposing community based strategies on water use not just following the water-'multis'; the 'kubus' representative Dipl. Ing. Gisela Hoffmann introduced the Zer0-M-Project – a transnational project on "Sustainable Concepts towards a Zero Outflow Municipality" with demonstration sites and real-scale pilot implementations in MEDA partner countries ([www.zer0-m.org](http://www.zer0-m.org)). Last but not least Dr. Hartwig Berger from the NGO "Ökowerk Berlin e.V." interacted from the stage with the participants about path to follow for a sustainable water supply in Berlin.

The participants gave feedback on boards at the lobby and wrote their ideas for future meetings and conferences. Comments were given on the board concerning the price system for drinking water; effects of different substances (i.e. medicine, colours etc.) on drinking water; Berlin water and climate situation scenario and alternatives; matching options of waste water and waste themes; global dimension on water access and gender aspects, as well as MDGs (Millenium Development Goals). Qualification skills should be developed for leading personnel.

Besides as well scientific posters as paintings of children from Africa and Germany were presented. The latter are parts of the "Water Drop Project" on network through transnational partnerships of schools, initiated by the German Development Service (DED) and the NGO EPIZ. 'kubus' and 'koop' will hold on special aspects of sustainable water management. All in all the team is glad to report about a very successful, interdisciplinary and interactive conference, based on the approach of transdisciplinarity research and co-operation.

**A Conference documentation** in German language will be installed for download in July 2005 at the 'koop' homepage: <http://www.tu-berlin.de/zek/koop>. Additionally at [http://www.tu-berlin.de/zek/kubus/publikationen/vGR\\_Recherche\\_Wasser.pdf](http://www.tu-berlin.de/zek/kubus/publikationen/vGR_Recherche_Wasser.pdf) a study on Sustainable Water Management in Germany, focused on experts and activities on sustainable water management in Berlin and Brandenburg (by Gudrun Radev, Eds. kubus) can be found.

For further information – contact the co-operation organisation: Jürgen Rubelt, [koop@zek.tu-berlin.de](mailto:koop@zek.tu-berlin.de); <http://www.tu-berlin.de/koop> and Frank Becker, Gisela Hoffmann, Wolfgang Endler, [kubus@zek.tu-berlin.de](mailto:kubus@zek.tu-berlin.de); <http://www.tu-berlin.de/kubus>.

### **3.4.6 Co-operation between EU Research Networks, NGOs and Science Shops**

**By Michael Søgaard Jørgensen**

Science Shop DTU, the Technical University of Denmark, Lyngby, Denmark

#### **Introduction**

The experience with community-based research shows that universities often are more interested in “big projects” with a high amount of external funding and co-operation with business and governmental institutions than in small projects related to civil society organisations like NGOs, (and maybe mediated through a Science Shop). The 6<sup>th</sup> EU Framework Programme (FP6) with its new research concepts for so-called Integrated Projects (IP) and Networks of Excellence (NoE) might reinforce this strive for big projects and excellence. It is, however, also a part of the concepts of IP and NoE that these projects and networks should develop interaction with policy makers and the general public. The international network of Science Shops, Living Knowledge, is co-operating with one of NoE's, ACCENT (Atmospheric Composition Change Network of Excellence). The experience so far shows that these obligations to develop interaction with policy makers and the general public could, depending on the members of the IP and NoE, lead to more co-operation

between civil society organisations and researchers. This paragraph describes and reflects upon some experiences with this kind of co-operation.

### **Co-operation around air pollution**

The ACCENT network comprises 32 research institutions and has as its aims:

- To promote a common European strategy for research on atmospheric composition change
- To develop and maintain durable means of communication and collaboration within the European scientific community
- To facilitate the research and to optimise two-way communication with policy-makers and the general public

The co-ordinator of the ACCENT work package on “Integration scientific activities with policy-making and public awareness” approached the Living Knowledge network, at a conference on Science Society interaction and invited the network to become affiliated to ACCENT as a mediator to NGO’s. The Science Shop at Technical University of Denmark has become member of the Steering Group of this work package. The activities in this co-operation have so far been:

A. Survey of air pollution related activities in Science Shops in the Living Knowledge network and among environmental civil society organisations

This survey showed that the overall topics which civil society organisations and Science Shops address in relation to air pollution are:

- a. Citizen monitoring of air pollution
- b. Health impact of air pollution
- c. Preventive strategies towards air pollution
- d. Air pollution related policy

Among the civil society organisations working within this field are:

1. *Center for Community Action and Environmental Justice, California, US*, which is a NGO cooperating with researchers and having focus on
  - o Impact on (children’s) health

- Training residents in measuring particulates in their neighbourhood
  - Developing recommendations for mitigation of pollution
  - Expressing resistance towards new sources of pollution (distribution warehouses)
2. *Smaller NGOs and community groups co-operating with Science Shops* have focus on these issues these years
- Local air pollution from highway traffic, speed-boats, ferries etc.
  - Impact on children's health near highways
  - Pesticide exposure via air borne dust
  - Odour pollution
  - Game about strategies for reduction of greenhouse gases
3. *Greenpeace* focuses on
- Highlighting air pollution problems and their sources
  - Developing and promoting alternatives, e.g.: refrigerators without ozone layer depleting agents, fuel efficient cars etc.
4. *Friends of the Earth in Central and Eastern European countries* focus on
- Strategies for improving air quality by addressing energy issues and transportation issues
- B. Joint planning of a workshop about the interaction of the ACCENT researchers with policy makers, civil society organisations and the general public: "Are we listening enough?"
- C. Dialogue about possible activities in the ACCENT network supporting the interaction with policy makers, civil society organisations and the general public leading to a work plan for next year

D. Initiating research, including a PhD project, based on dialogue and interaction between civil society organisations, ACCENT researchers about strategies for analysis, abatement and prevention of air pollution

ACCENT has its primary focus on monitoring and assessing air pollution and its sources and to some extent also on health impact and on air pollution related policy. The air pollution related activities among Science Shops and civil society organisations include also a focus on preventive strategies towards air pollution like reducing the pollution from the energy sector and the transport sector. This implies that Science Shops and civil society organisations could contribute to the broadening of the future activities of the ACCENT network. The dialogue so far shows that there is something to build the future research co-operation upon, since:

- Some ACCENT researchers apply participatory methods in their data sampling
- Some ACCENT researchers already have relations with civil society organisations
- Some civil society organisations already co-operate directly with air pollution researchers

Some of the possible future activities in the co-operation between the ACCENT network and the network of Science Shops are:

- Dialogue about the implications of the ACCENT research (health impact, policy needs etc.)
- Dialogue about future research needs related to air pollution: for example about societal driving forces behind the air pollution, pressures on the environment from different air polluting sources, monitoring of the state of the environment, the impact on health, and the policy needs and policy needs addressing the driving forces, the sources or the impacts.
- Research co-operation within some of the above mentioned topics

### **Perspectives in this kind of co-operation**

The co-operation between the ACCENT network and the Living Knowledge network and NGO's can be seen as an "easy" and obvious co-operation, since ACCENT deals with environmental issues, which is the concern of many civil society organisations and Science Shops. It might be more critical and difficult for the Science Shops and NGO's to develop co-operation with IP's and NoE's working with so-called high technology, which might not have the support of NGO's. The scepticism towards this kind of co-operation is based on the fact that these technologies often are launched as necessary for economic and sometimes also social and environmental achievements, while, at the same time, researchers and businesses are not willing to engage in real dialogue with NGOs. However, some researchers and business leaders know that broad societal legitimacy is crucial to market development for products based on these technologies and are willing to engage in dialogue. Some general issues to consider for Science Shops and NGO's, when analysing whether to approach an IP or a NoE or whether to accept an invitation from them are:

- What stakeholders and topics are included and excluded from the research and the co-operation?
- How is the balance between the legitimacy which the research seems to get from the interaction with NGO's and Science Shops and the influence the NGO's and Science Shops get on the research?
- Is the interaction primarily based on communication of research results to NGO's or is dialogue and co-operation also part of the interaction?
- What resources are available for the community-based research done by Science Shops and NGOs?

A recent Danish so-called green technology foresight about nano-, bio- and ICT-technology aimed at identifying environmental potentials and risks related to these three technology area and develop policy strategies, which could ensure focus on the environmental potentials and risks in the future governance and innovation processes. The Science Shop co-ordinator from Technical University of Denmark was one of the co-ordinators of the research group and had the possibility of organising the project process so that NGOs

could contribute to the project. The project group was aware that such a project might be legitimating these technology areas. Based on these project experiences, the Science Shop has developed an overall foresight methodology based on a governance approach to technological changes in order to support research and policy making as discursive and not bureaucratic processes mainly building on experts' views. As part of the foresight process the scope of the environmental assessments is discussed through stakeholder involvement. Different solutions to environmental problems are compared so that more simple solutions to environmental problems are not forgotten in the focus on the so-called high technologies. This comparison of different solutions (or strategies) goes beyond a simple comparison of chemical emissions and resource consumption and includes the possible impact on the understanding of nature. An example is the risk that the development of small and cheap sensors are used as support for an environmental policy mainly focusing on measurements of pollutants and neglecting the experiences with preventive environmental strategies, which aim at preventing and reducing the problems at the source. For environmental potentials that seem to go beyond "green hype", strategies for the implementation of the potentials through governance of research, development and application of the technologies were developed. The experience from the project illustrates some of the contributions, which Science Shops and NGOs and a governance approach can make to this kind of projects, but these contributions are very dependent on the future international and national funding opportunities for this kind of activities as part of research and innovation.

### **3.4.7 Publications and other dissemination materials prepared by the WP4 group members**

#### **Poster presentations:**

##### ***... at 2nd Living Knowledge conference***

- Expectations and co-operativeness of German experts on water management - an ISSNET project study on potential transnational linkages
- 'Science Shops bridging the gap between research and society' by Kirsten von der Heiden & Dr. Wolfgang Endler
- Beamer presentation about the structure and chosen project examples of the Centre for Co-operation (ZEK), Technical University Berlin, (Germany) at the Living Knowledge conference booth in Seville.

##### ***... at ESEE European Seminar on Extension Education***

- HEIDEN, K. V. D. & Dr. WOLFGANG ENDLER (2003): 'Science Shops bridging the gap between Research and Society' in: Rural extension and training/ education as the missing elements in rural development projects, Conference proceedings 16th ESEE European Seminar on Extension Education, Eger, Hungary on September 2nd -8th, eds.: JÓZSEF KOZÁRI, pp. 320 – 322, [www.altagrusiness.hu/confers/Esee2003](http://www.altagrusiness.hu/confers/Esee2003)

##### ***ENCOS 1st network conference in Berlin***

- HEIDEN, K. V. D. & Dr. WOLFGANG ENDLER (2003): 'Science Shops bridging the gap between Research and Society', poster presentation
- Speech by Dr. Wolfgang Endler illustrating the Tiergarten Park tunnel project discourse as analysed case by 'kubus' studies within the EU project INTERACTS. Speech held at the panel "new forms of knowledge production".
- Speech by Verena Lorenz Meyer illustrating co-operation and networking between Science Shop 'kubus' and SMEs based on the ReUse computer project.

## **Contributions to Living Knowledge magazine and translations into German**

The Science Shop 'kubus' sent several contributions for the Living Knowledge magazine, all accepted for printing.

- Kirsten von der Heiden & FRANK BECKER (2005): "Water: Trading good – weapon – human right? Ways towards a sustainable water management". In: Living Knowledge – International Journal of Community Based Research, Eds.: ISSNET International Science Shop Network, c/o Wissenschaftsladen Bonn e.V., No. 5, April 2005, p. 17

Translation by Richard Holmes & 'kubus' as enclosure in Living Knowledge magazine No. 5: "Wasser: Ware – Waffe – Menschenrecht? Wege zum nachhaltigen Wassermanagement".

- TEODOSIU, C., S. BRODERSEN, K. V. D. HEIDEN & A. GNAIGER (2004): "Transnational Linkages - The Role and Contributions of Science Shops in Linking Partners in Thematic Transnational Research Co-operation". In: Living Knowledge magazine – International Journal of Community Based Research, Eds.: ISSNET International Science Shop Network, c/o Wissenschaftsladen Bonn e.V., No. 4, December 2004, p. 9-12
- Translation by richard. Holmes & 'kubus' as enclosure in Living Knowledge magazine No. 4: "Transnationale Bezüge – Die Rolle von Wissenschaftsläden und deren Beiträge zur Verknüpfung von Partnern in themenbezogenen, transnationalen Forschungs Kooperationen".
- Hoffmann, Gisela (2004): "Zero-M Building up a cross-cultural co-operation on decentralised sustainable water management concepts". Eds.: ISSNET International Science Shop Network, c/o Wissenschaftsladen Bonn e.V., Living Knowledge magazine No. 4, December 2004, p. 4

- Kirsten von der Heiden (2004): “Computers going Green ...by re-use Computers” In: Living Knowledge magazine – International Journal of Community Based Research, Eds.: ISSNET International Science Shop Network, c/o Wissenschaftsladen Bonn e.V., Living Knowledge magazine No. 3, July 2004, p. 17
- Translation by Bridget Schaefer & Kirsten von der Heiden, ‘kubus’ as enclosure “Computer werden grün...” in Living Knowledge magazine No. 3: “Computers going Green ...by re-use Computers” by Kirsten von der Heiden, Science Shop ‘kubus’. In Living Knowledge magazine No. 3, July 2004, p. 17.
- Translation by Katja Chudoba as enclosure “Von Information zu Partizipation” in Living Knowledge magazine No. 1: “From information to participation” by Anke Valentin, Science Shop Bonn, Germany. In: Living Knowledge magazine No. 1, November 2003, p. 9-10
- Translation by Bridget Schaefer & Wolfgang Endler, ‘kubus’ as enclosure in Living Knowledge 2: “Scientific Governance and Democracy in Europe” by Alan Irwin, Brunel University, UK. In Living Knowledge magazine No. 2, March 2004, p. 12-13
- Translation by Bridget Schaefer & Wolfgang Endler, ‘kubus’ as enclosure “Politik ist ein Prozess – lebendiges Wissen ein Fluss!”, interview with Peter Lévesque, Canada. “ Policy is a Process – Living Knowledge is a Flow. In Living Knowledge magazine No. 3, July 2004, p. 5-6.
- The German translations enclosed as copies at the corresponding Living Knowledge magazine editions are sent by mail directly executed by Science Shop ‘kubus’ towards their partner organisations (‘kubus’ internal mailing list, including the ISSO list of the Living Knowledge network)).

### **Abstracts /Publications in the conference proceedings or other journals:**

- TEODOSIU, C., BARJOVEANU G., TELEMAN D. (2004): Sustainable water resources management 1. River basin management and the EC Water Framework Directive. *Environmental Engineering and Management Journal*, December 2003, Vol.2, No.4, 377-394
- BARJOVEANU G., TEODOSIU C., JØRGENSEN M. S. (2004): Sustainable development assessment. Application to the Prut river basin. *Environmental Engineering and Management Journal*, December 2004, Vol.3, No.4, 827-844
- BARJOVEANU G., 2004 Report on Study Period at Technical University of Denmark (March–May 2004): Sustainable Water Management. Assessment for the Prut River Basin, Romania (available at [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm)).
- HEIDEN, K. V. D. & Dr. WOLFGANG ENDLER (2005): 'Preliminary study on expectations and co-operativeness of German experts on transnational networking in the field of water management'. In: T. Rojo, Eds.: "Advancing Science and Society Interactions" 2005, p. 260-261
- HEIDEN, K. V. D. & Dr. WOLFGANG ENDLER (2005): 'Science Shops bridging the gap between research and society'. In: T. Rojo, Eds.: "Advancing Science and Society Interactions" 2005, p. 267-268
- HEIDEN, K. V. D. (2005): 'Improving social and environmental contributions towards sustainable agriculture'. In: T. Rojo, Eds.: "Advancing Science and Society Interactions" 2005, p. 183-185
- WOLFGANG ENDLER & Kirsten von der Heiden (2005): "Co-operation projects on the Tiergarten park in Berlin – a demonstration of the interaction between Science and Society and of the role of intermediaries". Speech held at the panel "new forms of knowledge production". In: Conference reader "First European networks conference on sustainability in practice", 1st –4th April 2004, p. 138 ff.

- KIRSTEN VON DER HEIDEN & VERENA LORENZ-MEYER (2005): "Network management tasks and structuring the process of establishing a SME network – taking 'reuse computer Berlin' as an example". In: Conference reader "First European networks conference on sustainability in practice", 1st –4th April 2004, p. 207 ff.
- HEIDEN, K. V. D. (2004): 'Missing links towards bi-directional agri-environmental knowledge transfer – the knowledge systems approach of Brandenburg, Germany'. Proceeding on the International Symposium 'Education – way for the prosperity of future generations', Sept. 2004, Department of Education, Czech University of Agriculture, Prague

**Online publications:**

- HEIDEN, K. V. D. & Dr. W. ENDLER (2004): "Analysis of the German interviews for the pilot project: Sustainable Water Management and Land Use", Improving Science Shop Networking (ISSNET project), WP4 transnational research co-operation; report publication online on: <http://www.scienceshops.org>; <http://www.tu-berlin.de/zek/kubus>
- Radev, Gudrun "Recherche zu Kooperationen im Bereich nachhaltiges Wassermanagement und nachhaltige Landnutzung sowie Recherche zu Forschungsarbeiten und Kooperationen im Bereich Stoffstrom- und Ressourcenmanagement; brochure and html file: (kubusrecherche\_wassermanagementGER.html on <http://www.scienceshops.org>), <http://www.tu-berlin.de/zek/kubus>, Eds.: Science Shop 'kubus', December 2003



## 4 Previous and recent experiences with transnational research co-operation among Science Shops

### 4.1 Co-operation between Science Shop for Biology, Utrecht University and Queen’s University Belfast Science Shop

**By Søsner Brodersen**

Science Shop DTU, the Technical University of Denmark, Lyngby, Denmark

***Project title: “The Impact of stroke on lay carers”***

#### 4.1.1 Project participants

The project was a co-operation between one master student from the Netherlands, one NGO from Northern Ireland, two research departments and two Science Shops from the Netherlands and Northern Ireland:

| Institution/organisation   | Participant                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Student</b>             | Anke Jongen, Biology Master Student, Utrecht University                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Research Department</b> | Host supervisor: <b>School of Nursing and Midwifery</b> (Queen’s University Belfast), Hazel McFadden ( <a href="http://www.qub.ac.uk/nur/">http://www.qub.ac.uk/nur/</a> )<br><br>Official supervisor department: <b>Biology Department of the Centre for Science and Mathematics Education</b> , Utrecht University ( <a href="http://www.cdbeta.uu.nl/biodid/e_default.shtml">http://www.cdbeta.uu.nl/biodid/e_default.shtml</a> ) |
| <b>NGO</b>                 | <b>Northern Ireland Chest Heart and Stoke Association</b> (NICHAS) ( <a href="http://www.nichsa.com/html/index.php">http://www.nichsa.com/html/index.php</a> ), including interviews with 8 lay carers to stroke patients.                                                                                                                                                                                                           |
| <b>Science Shops</b>       | <b>Science Shop for Biology, Utrecht University</b> , Caspar de Bok ( <a href="http://www.bio.uu.nl/scienceshop/">http://www.bio.uu.nl/scienceshop/</a> )<br><br><b>Science Shop Queen’s University</b> , Eileen Martin ( <a href="http://researchservices1.qub.ac.uk/Scishop/scisho/Scienceshop/">http://researchservices1.qub.ac.uk/Scishop/scisho/Scienceshop/</a> )                                                              |

## **4.1.2 Summary of the project**

### *4.1.2.1 Project initiation*

The project was based on a request from the NGO NICHSA to the Queen's University Science Shop. The relationship between the two organisations is based on a long-term relationship, the NGO had previously had co-operation with the Science Shop (Martin, 2005). The request from the NICHSA was that they felt a need for an investigation of whether activities met the needs of the care takers to stroke patients, and if the organisation needed to explore some other activities in order to meet the needs of the care takers (de Bok, 2005).

The project was not intended as an international project, NICHSA addressed the request to the Science Shop at Queen's University, and Science Shop Queen's were looking for a student internally at the university. At the same time a Dutch student approached the Science Shop for Biology at Utrecht University, asking for a project abroad within the area of health issues (de Bok, 2005).

The Science Shop for Biology, Utrecht University, contacted all the Science Shops abroad who he knew were working within the field of health issues. The Science Shop Queen's responded on the request, having in mind the request from NICHSA (de Bok, 2005).

### *4.1.2.2 Project aim and results*

In order to meet the needs of the NGO, the student based her research on the following research questions:

- What are the issues carers have to deal with in caring for a stroke patient?
- What are carer's needs with regards to services and support?
- How can NICHSA meet these needs?

(Jongen, 2001)

The methodology used in the research project was a literature study on the needs of people suffering from stroke, and semi-structured interviews with

care takers (8 persons). The student further participated in events organised by the NGO (de Bok, 2005).

Based on the research the student was able to make the following conclusions and recommendations to NICHSA (Jongen, 2001):

Major conclusions:

- Carers have an influence on the recovery of the stroke patient through their willingness and ability to support
- There is a great lack of information to carers (practical and clinical)
- Overall carers were satisfied with the support they receive in hospital, but less satisfied with services after discharge

Recommendations to NICHSA:

- NICHSA should take care of informing carers about help and support opportunities, since the hospitals do not have time to do this
- NICHSA should make sure all hospitals in the Northern Ireland know the organisation and will refer patients and carers to them
- NICHSA should make an information package to be delivered to all stroke patients at hospitals
- NICHSA should make home visits as soon as possible after patients has been discharged from hospitals
- The Department of Health, Social Services and Public Safety should make funds available to NICHSA to expand their programme
- Funding should be made available to provide respite care
- Funding should be made available so NICHSA can extend their Family Support Scheme

The project had a timeframe of 9 month. No costs were involved, except practical costs, such as copying, postal etc, which were covered by the NGO.

#### *4.1.2.3 Project communication*

At the beginning of the project co-operation the Science Shop at Queen's University had meetings with the NGO and the student in order to discuss research focus etc. Besides these meetings the Science Shop Queen's and the student had regular ongoing meetings throughout the whole project period (Martin, 2005). The student and the Science Shop for Biology, Utrecht University, also had intensive communication during the whole project period. The main communication tool was email correspondence, discussing drafts and results. When the student returned to the Netherlands, they had several face-to-face meetings. At the end of the students' stay in Belfast the representative from the Science Shop for Biology, Utrecht University, participated in a meeting with the Queens Science Shop, the NGO and the supervisor from the School of Nursing and Midwifery. The meeting had the aim of discussing the project with all participants (de Bok, 2005).

#### *4.1.2.4 Dissemination*

At the time of the project co-operation, the NGO was running a campaign in order to gain further government support for lay carers, and in that connection the NGO released a press release, using the research results from the Science Shop project (Martin, 2005).

The Science Shop for Biology, Utrecht University, has not used the results of the project, because it was very local information on the needs of this local community. One follow up aspect which could have been explored would have been to try analysing if there were a difference between the needs in the Northern Ireland and the Netherlands. Such comparisons/cross analysis could be activities for future transnational co-operation between Science Shops (de Bok, 2005).

The report was published at Queen's Science Shop. The Science Shop for Biology made a short summary which they have uploaded on their homepage, and the report can be achieved electronically through approaching the Science Shop for Biology (de Bok, 2005)

The Science shop at Queen's University have not disseminated the findings of the report, but they have used the co-operation with the student and the Science Shop for Biology, Utrecht University, to profile themselves at the university (Martin, 2005).

#### **4.1.3 Reflections on the project co-operation**

The Science Shop for Biology, Utrecht University, became involved in the project because they wanted to help the student find a co-operation partner abroad, and because the Science Shop saw future perspectives in international co-operation between Science Shops. This particular co-operation was seen as a sort of pilot project for future international project co-operation between Science Shops (de Bok, 2005).

This co-operation project can be seen as both a co-operation between Science Shops with the involvement of a student, and as co-operation between a Science Shop (e.g. Queen's) and a NGO. Although both Science Shops involved in this co-operation mentioned that this was an international co-operation, the projects in it self did not have an international component, and could as well have been carried out by local students (de Bok, 2005; Martin, 2005).

##### *4.1.3.1 Problems and Barriers*

Both Science Shops expressed that they found the co-operation very useful, challenging and it broadened their perspectives in relations future international co-operation between Science Shops and students. They did however also mention some problems which they faced, primarily due to the different procedures in the two Science Shops for supervising of students (de Bok, 2005; Martin, 2005). Firstly, it was mentioned that the requirements to students carrying out project through the Science Shop, differs in the two Science Shops. The Science Shop for Biology, Utrecht University, has fixed requirements to the student in relation to research question, explanation and verification of methodology and theoretical approach, whereas Queens

Science Shop does not set up the same requirements (de Bok, 2005). Secondly, the formal procedures for having a student going abroad was not discussed in detail before the co-operation, which meant that they faced practical problems such as the formal status of the supervision. Queen's University do not have any formal agreements or procedures for having foreign students doing Science Shop projects; however procedures do exist if the student is enrolled on a course at the university. This meant that taking up the role as supervisor for a foreign student was seen as additional work (voluntary), not part of the lecturers' normal obligation. Therefore the Science Shop Queen's and the student to times found it difficult to commit the scientific supervisor; however when they succeeded in committing the supervisor, the student got very good supervision and guidance (Martin, 2005).

#### *4.1.3.2 Benefits of the co-operation for the partners*

This project did not lead to any long term benefits for the Science Shop for Biology, Utrecht University, but the aspect of more co-operations with students abroad would be very beneficial to the Science Shops, their position in education, and to the Science Shop attractiveness for students (de Bok, 2005). The Science Shop at Queen's University did not use the results of the project for any beneficial purposes, but they did however use the international co-operation to profile themselves at the university. Further did the Science Shop at Queen's University and the university get an increased awareness of necessary structures needed in order to facilitate international student co-operation projects (Martin, 2005).

The Science Shop at Queen's University expectations and interests were to full extent met in this co-operation project. The output was of excellent quality, and the student had more experiences as background, than students from Queen's university, who in most cases are undergraduate students. This meant that the NGO had a student with high qualifications to carry out the research they needed. Another benefit seen from the perspective of the NGO was that the co-operation broadens the discussions in an international perspective (Martin, 2005).

#### **4.1.4 Desired support from Science Shops to improve transnational co-operation**

The two Science Shop representatives had several wishes for a future transnational co-operation:

- Search for national / international project partners (de Bok, 2005)
- Access to existent co-operation projects or networks (de Bok, 2005; Martin, 2005)
- Develop in common project proposals on themes requested by community groups (de Bok, 2005; Marin, 2005)
- Exchange information/good operational practices (de Bok, 2005; Marin, 2005)
- Linking topics in one country to another country (de Bok, 2005)
  - E.g. problems in DK are very often familiar with problems in the Netherlands, and the fact that the context is different makes it interesting for an international co-operation
  - Perceived local problems may be problems experienced in other communities and solutions could be sought together – making clear that local problems may not be as local as perceived
- To bring NGOs together and make them aware that they face the same problems just in different contexts (de Bok, 2005)
- Science Shops could make local problems interesting to the researchers by bringing together NGOs and scientists at international level to show them that problems experienced in one country also are experienced in other countries (de Bok, 2005)
- There is a need for much more thematically co-operation between the Science Shops (de Bok, 2005)
- Dissemination of existent knowledge at national and international level (Martin, 2005)

It was further expressed by both Science Shop representatives that in future co-operation the Science Shops needs to agree on common procedures for exchange of students, and to make sure that knowledge sharing is taken part in all institutions and organisations involved in a transnational co-operation project (de Bok, 2005; Martin 2005).

#### **4.1.5 Benefits of taking part in a thematic research co-operation network**

The Science Shop representatives saw several benefits in taking part in a thematic research co-operation network:

- Linking organisations across countries who deal with the same topics or problems. This would enable local or regional community organisations to bring their issue out of the local context and into a more global context (de Bok, 2005).
- Broaden the perspectives of a given problem (Martin, 2005)
- Strengthening the Science Shops expertise and position within the universities.
  - Learning and sharing of experiences with other Science Shop (de Bok, 2005; Martin, 2005)
  - By recognition of the international dimension of local issues the Science Shops can use it as a strategic benefit to show that they are not only dealing with local issues of minor scientific importance (de Bok, 2005)
  - Training of students in an international context (de Bok, 2005; Martin, 2005)
  - Attractiveness of projects for students (de Bok, 2005)
  - Development of new research themes and co-operations (de Bok, 2005)

#### **4.1.6 Recommendations to future international co-operation between Science Shops**

In future transnational research co-operation the following considerations are recommended by the two Science Shop representatives:

- Structure and formal procedures for having a foreign student doing a research has to be put in place within the universities (including responsibilities of supervision of foreign students) (de Bok, 2005; Martin, 2005)

- The content of the research project – which requirements are set for the students; what to be researched and how, needs to be very clear from the beginning (de Bok, 2005)
- Make sure a cross analysis component are part of a future co-operation, rather than as this project, being only locally based (de Bok, 2005)
- Face-to-face meeting: it would be most appropriate if the ‘home’ Science Shop is able to participate in at least the last meeting between all the actors (de Bok, 2005)
- Awareness of extra staff time needed to organise and support transnational projects
- Good working relationship with transnational partner to deal effectively with any problems which might emerge during the process

## 4.2 German transnational example: EU project Zer0-M

**By Kirsten von der Heiden**

Science Shop ‘kubus’, Technical University Berlin, Germany

There are federal representatives and expert working groups in Germany who are working on water management guidelines. The starting point for this task is at EU level, e.g. WFD, FFH. Another example is flood prevention: this is under the jurisdiction of the German Federal States. Guidelines can here be worked up to framework concepts and emerge as flood protection recommendations at EU level. Then there is the intersection of FFH and water, the Federal States Working Group on Water - LAWA, and diverse categories in the 16 Federal States of Germany according to priority and endangerment, and a variety of participatory processes.

Transfer organisations made the experience that it was not possible to initiate a round table in Berlin in 2002 on the subject of putting the WFD into practice in state law. For them there still seems to be no great call for this in 2004/2005 either.

As interpreted additionally in the cross analysis report, several German interviewees from NGOs and Scientists mentioned a need for an online forum or data base platform for future transnational and national thematic exchange. The following concrete ideas developed are:

- A service page (internet) to search for potential partners (ER)
- Databank – give an overview of existing Science Shops in the world (IMUP)
- Online forum with the aim of presenting new projects and ideas for co-operation (WMC and ER).

The German analysed example on the assessment of thematic international co-operation is a transnational EU-project under the Euro-Mediterranean Regional Programme for Local Water Management, called Zer0-M. The permanent assistant of the involved Science Shop 'kubus', Gisela Hoffmann, graduated in Environmental Engineering, is co-managing the project. Data of chapter 4.2 is gained by an e-mail interview with Mrs. Gisela Hoffmann, two of her project presentations conducted for 2nd "Living Knowledge conference" in Seville, Spain and the symposium "Water: Trading good – weapon - human right?" in Berlin, Germany as well as based on the project webpage [www.zer0-m.org](http://www.zer0-m.org).

Time span of the project Zer0-M is 48 month (9/2003 - 8/2007).

*Interviewee name and contact details:*

Gisela Hoffmann  
Scientific assistant  
Science Shop 'kubus',  
Co-operation and Consulting for Environmental Questions  
(Kooperations- und Beratungsstelle für Umweltfragen - kubus)  
Centre for Co-operation (ZEK)  
Technical University Berlin  
Sekt. FR 7-1, Franklinstr. 28/29, D-10587 Berlin, Germany  
Tel. +49 30 314-24617, Fax +49 30 314 24276  
e-mail: [gisela.hoffmann@zek.tu-berlin.de](mailto:gisela.hoffmann@zek.tu-berlin.de), [kubus@zek.tu-berlin.de](mailto:kubus@zek.tu-berlin.de),  
<http://www.tu-berlin.de/zek/kubus>  
Contact details and links to further presentations: [www.zer0-m.org](http://www.zer0-m.org)

#### **4.2.1 Project participants**

##### **Type of organisations involved in this project**

The project consortium is composed with researchers, NGOs and intermediaries. The main target groups are researchers, governmental and administrative staff.

*Organisations involved are:*

*Research institutes:*

- Tübitak-Marmara Research Center - MRC-ESERI (Turkey)
- Water Research & Pollution Control Department, National Research Centre – NRC, Dokki, Cairo, (Egypt)
- Institut National de Recherche Scientifique et Technique, Laboratoire Eau et Environnement - LEE (Tunisia)
- Institut Agronomique et Vétérinaire Hassan II, Wastewater Treatment and Reuse Unit - WTRU (Morocco)
- Technical University Berlin, Department of Process Engineering (Germany)
- Department of Geography and Regional Research, University of Vienna - IGR (Austria)

*Environmental NGOs:*

- Arbeitsgemeinschaft ERNEUERBARE ENERGIE, Institute for Sustainable Technologies (AEE INTEC), Gleisdorf, Austria
- Associazione Ambiente e Lavoro Toscana – ALT - O.N.L.U.S. (Italy)

*Organisation of SME:*

- Fachvereinigung Betriebs- und Regenwassernutzung e.V. – fbr (Germany)

*Science Shops:*

- 'kubus', Centre for Co-operation (ZEK), Technical University Berlin (Germany)

### **Participants involved in this project**

40 representatives build the project consortium. There are about 1.300 participants in number involved in pilot implementation, workshops and conferences.

### **4.2.2 Project summary**

Sustainable sanitation is a key concept for sustainable development and to achieve the goals of the Johannesburg Summit 2002 ref. water and sanitation: *To halve by the year 2015 the proportion of people without access to safe drinking water and to basic sanitation.* The European Union announced the "Water for Life" initiative that seeks to engage partners to meet goals for water and sanitation, primarily in Africa and Central Asia.

Therefore the EU project Zer0-M works on sanitation concepts characterised by low water consumption, full reuse of water and fertiliser, secure highest hygienic standards, low-technology and low-costs, covering mainly countries in Northern Africa and the Mediterranean. Because sustainable sanitation is often decentralised, user involvement and proper maintenance is a key to success.

#### *4.2.2.1 Project aims*

Zer0-M aims at concepts and technologies to achieve optimised close-loop usage of all water flows in small municipalities or settlements (e.g. tourism facilities) not connected to a central wastewater treatment - the Zero Outflow Municipality (Zer0-M). This means application of water-saving technologies as well as separate collection of different waste waters and treatment and reuse according to their quality.

Main Elements of the project are the development of training and demonstration centres, the training for planners and engineers, pilot case studies and pilot implementation.

#### 4.2.2.2 *Main research questions*

Zer0-M is more a dissemination project than doing research, focussing knowledge transfer and exchange among stakeholders in the Mediterranean Countries, e.g. local bodies. The main question the project works on is:

*How can sustainable, decentralised sanitation be implemented in Middle-Eastern Mediterranean countries?*

#### 4.2.2.3 *Methods the project uses*

- Collection of experimental data and monitoring
- Case studies evidence
- Training, education
- Implementation of recommended planning results
- Sharing experiences
- Knowledge exchange (conferences, journal, homepage)

#### 4.2.2.4 *Topics of the international co-operation project*

Main co-operation topics are:

- Sustainable water management, sustainable sanitation
- Decentralised water supply and treatment
- Reuse of water and nutrients of wastewater
- Knowledge exchange and transfer between European experts and experts of non-European Mediterranean countries on above named topics (workshops, trainings, conferences).

#### 4.2.2.5 *Activities of the project*

These are the main activities the project provides:

- Know-how exchange – Conferences, website, journal:
  - e.g. the first Zer0-M conference has been held from March 15-16th, 2005 in Istanbul, Turkey
  - Zer0-M placed a speech at the 'kubus'/ 'koop' conference on water (see chapter 3.3.1) in Berlin
- Know-how transfer – training of water experts in sustainable sanitation

- Demonstration – implementation of small scale and real scale examples, what y the consortium is called Training and Demonstration Centers (TDC) and pilot plants
- Virtual studies – development of advanced examples of sustainable sanitation based on the pilot plants leading to a planning tool
- Awareness – production of a DVD about sustainable sanitation.

#### *4.2.2.6 Major results and recommendations*

Results are regularly presented at the project website (<http://www.zer0-m.org>), the project is still ongoing.

#### *4.2.2.7 Project initiation and development*

Some partners knew each other from previous projects respective preparation of non-successful applications in similar thematic fields. Zer0-M has been developed mainly by the co-ordinator and the co-manager of the project. Their proposal has been improved and worked out more deeply in meetings of all partners during the preparation phase.

#### *4.2.2.8 Project budget, co-funding*

The project budget amounts to 5 Mill. EURO (80% by EC, 20 % co-funding is requested by EC from the project partners).

#### *4.2.2.9 Communication types for information exchange and co-operation*

- The project uses
- Meetings, workshops
- E-mail/ discussion groups
- Phone
- Lectures/training, speeches
- Conferences as exchange and co-operation types.

### **4.2.3 Reflections on the project process**

#### **Project fulfilment evaluation by the own organisation and client groups**

The extent, the project fulfils the original objectives of the Science Shop 'kubus' so far is about 90 %, but with a delay of the time schedule of 3 months.

#### **Type of transnational co-operation envisaged by the project**

An extended co-operation between Science Shops, universities and other governmental/ nongovernmental bodies is envisaged by the project.

#### **Main problems related to the project realisation**

Administrative rules of EC (e.g. tender regulations, other financial regulations; involvement of municipal administration in the Middle-East partner countries is sometimes time-consuming and not always successful) are the main problems the project has to face.

#### **Foreseen long term-benefits of this co-operation for each of the partners involved are:**

The foreseen long-term benefits for the following project partners involved in the project, e.g. Science Shops/ NGOs, universities and governmental organisations are:

- Knowledge gains on sustainable water management, specific ecological sanitation and reuse of water and fertiliser;
- Gain experience in transdisciplinary research and co-operation with Middle East and Mediterranean countries;
- To find new partners for co-operation;
- Open a new market.

#### **Specific interests and expectations of own organisation**

The leading questions of the Science Shop part of the project are:

- How can sustainable water management and sanitation concepts be advanced?

- How to induce a long-term implementation – what are the chances and constraints?
- In which way/s local authorities and citizens can be encouraged to involve actively?
- How to link research activities of universities with the expertise of practitioners?
- What is the role of intermediaries in this process?

The project goal fits into the main goals of 'kubus' (social and ecological questions). The Science Shop 'kubus' and the interviewee personnel want to gain more experience in project management of a large international consortium. Besides they want to gain opportunities for collaboration with other departments of the Technical University Berlin and regional institutions on sustainable water management.

#### **4.2.4 Desired support from Science Shops to improve transnational co-operation**

Desired support Science Shops as intermediaries could provide to improve transnational co-operation between NGOs, researchers, Science Shops etc. is the following:

- Search for national/ international project partners
- Access to existent co-operation projects or networks
- Developing common project proposals on themes requested by community groups
- Introduce the approach of transdisciplinary research and co-operation

#### **4.2.5 Benefits of taking part in a thematic research co-operation network**

Main benefits of taking part in a thematic research co-operation network, as that proposed by ISSNET through its pilot, are:

- a) The development and acquisition of new projects;
- b) Capacity building/ development of organisations;
- c) To find new co-operation and discussion partners.

### 4.3 Cooperation between Romanian and Dutch Science Shops (case study 1)

**By George Barjoveanu**

InterMEDIU – Information, Consultancy and ODL Department, Technical University of Iasi, Romania

This case study presents the results of two interviews that were performed with two of the co-ordinators of a transnational research co-operation project: **Dr. eng. Carmen Teodosiu** from the Technical University of Iasi, Romania and **Dr. Henk Mulder** from University of Groningen, The Netherlands. These interviews were conducted considering the interview framework presented in Chapter 2 of this report

***Title of the project:***

*EMS in Factories: The Introduction of Environmental Management Systems in the Metal Processing and Ceramic Industry in Romania and the Netherlands.*

**Project participants (directly and indirectly involved)**

| Institution                                                                                     | Persons                      | Position                               |
|-------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| InterMEDIU – Information, Consultancy and ODL Department, Technical University of Iasi, Romania | Dr. ing. Carmen Teodosiu     | Project supervisor                     |
|                                                                                                 | Monica Stanciu-Petrea        | Participant, Science Shop staff member |
|                                                                                                 | Mihaela Hristea              | Student                                |
|                                                                                                 | Brandusa Sluser              | Student                                |
| University of Twente, The Netherlands                                                           | Dr. Joy Clancy               | Project supervisor                     |
|                                                                                                 | Frits Rabbering              | Student                                |
|                                                                                                 | Sander Odijk                 | Student                                |
|                                                                                                 | Duco Jansen                  | Student                                |
|                                                                                                 | Patrick Tanck                | Student                                |
| InterMEDIU Department at “Dunarea de Jos” University of                                         | Dr. ing. Lucian P. Georgescu | Project supervisor                     |

|                                                                  |                          |                                                                     |
|------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------|
| Galati                                                           | Lucia Georgescu, MSc     | Science Shop staff member                                           |
|                                                                  | Gabriela Andra Tudorache | Student                                                             |
|                                                                  | Daniel Ciobanu           | Student                                                             |
| Chemistry Science Shop, University of Groningen, The Netherlands | Dr. Henk Mulder          | Matra Project coordinator                                           |
| Green Grid Consultancy, Enschede, The Netherlands                | Ir. Arie Fokkink         | Involved in project initiation and cooperation with Univ. of Twente |

Apart from the organisations listed above, the project activities have included the participation of other organisations: 3 Environmental Protection Agencies (2 in Romania and 1 in The Netherlands) and 5 metal processing and ceramic factories (3 in Romania and 2 in The Netherlands).

#### **4.3.1 Summary of the project**

##### *4.3.1.1 Project initiation*

The project was initiated in the framework of the Matra Program “*Science Shops in Romanian Moldova- project RO/97/04*” (the first Matra project which has been realised between 1998 and 2000) so as to give experience to both staff and students in Science Shop work and related activities. The incentive for the project initiation was the discussions of the Science Shop InterMEDIU staff based at the Technical University of Iasi with the Environmental Protection Agency representatives concerning the local environmental policies and environmental management system implementation in factories.

The international students projects and staff exchange were scheduled for all the new founded Romanian Science Shops (for example InterMEDIU TU Iasi and InterMEDIU Galati have co-operated with the Dutch Science Shops for the study concerning EMS implementation, while InterMEDIU Bacau and InterMEDIU Iasi have undertaken a study concerning lake pollution and monitoring) and the aims and methodology of the project were established in co-operation by the respective Science Shop co-ordinators together with the

Matra project co-ordinator dr. Henk Mulder from the University of Groningen, The Netherlands.

#### *4.3.1.2 Aim*

One of the objectives of the project was to strengthen the capacity of both Romanian and Dutch Science Shops to manage international research projects and to enhance the team-work abilities of the students through bilateral exchanges (Science Shop staff and students) and improvement of Science Shop operational practices. The scientific objective of the project was to analyse the environmental policies, the monitoring practices and the activities and for environmental protection both in Romania and the Netherlands. At educational level, the aim of the project was to help the Romanian students to develop new abilities in teamwork, project management and project based learning. The Dutch students who have participated in this project have received credit points for their activity within MDOO, a multidisciplinary course held at the University of Twente.

#### *4.3.1.3 Research question*

The project had both educational and research content and the topic was the development of a comparative analysis concerning the implementation of EMS in industrial enterprises in Romania and the Netherlands.

The main idea of the project was to determine to what extent the ISO standards for environmental management are integrated in the general activities of ceramic and metal processing factories in both Romania and the Netherlands. The general aim of the project was to help develop an understanding of the Dutch and Romanian environmental managing systems and the way they are implemented. Also the report of the project formulated recommendations about the policy, planning and EMS implementation in Dutch and Romanian factories that want to improve their environmental performances.

#### *4.3.1.4 Methodology*

The project began with a documentation period in which the involved students gathered information on the industries (metal processing and ceramics), as well as on EMS and environmental policies in factories. For the documentation the Internet tools and the University libraries were widely used. 3 metal processing units (2 in The Netherlands, 1 in Romania) and 2 ceramic producers (1 in The Netherlands, 1 in Romania) were selected and visited. In order to realise comparisons between the Dutch and Romanian companies' interviews were taken and then documentation visits were performed at the above mentioned organisations.

By compiling and interpreting the information gathered previously the case study structure emerged and these case studies contained information on environmental policies as well as on technical aspects to define some environmental problems. The case studies reports also provided information on legislation and environmental policy recommendations for the metal processing and ceramic products manufacturing units.

#### *4.3.1.5 Project activities*

The activities of the project have included documentation activities and visits of staff and students to: environmental organisations, metal processing and ceramic factories, Science Shops, EPA's during which interviews were performed to gather information and data on environmental issues (especially with the industry). The project group work meetings were primarily performed by students; however at several project meetings in Romania and the Netherlands there were also the staff members present.

The main outputs of the project were the presentations prepared for the Romanian industry representatives, the MDOO project presentations and the international project report that was published by the Chemistry Shop at Groningen University. Another presentation of the project activities and results was held at the Faculty of Industrial Chemistry in Iasi (Romania) and it has as audience students and staff members from the profile Environmental Engineering.

#### *4.3.1.6 Conclusion*

Although the project lasted only three months, a very good co-operation was set up between the partners and also with the external organisations (especially SME's), so as at the end of the project recommendations on environmental management systems in metal processing and ceramic industry were produced. Also the good co-operation contributed to the improvement of team-work for the Romanian students which after the project finalization were capable of taking more initiatives in group work and project activities.

#### *4.3.1.7 Budget*

The total budget used for the project was 14,200 EURO for the Romanian and Dutch students and it was supported from the Matra Project funds. Additionally, there were some costs for the staff members, but not necessarily all related to the cost of the international student project activities.

#### *4.3.1.8 Timeframe*

The project lasted three months (March- June 2000) and currently it is finalised.

#### *4.3.1.9 Communication*

The communication between partners during the project mainly consisted in the common working sessions, but e-mail and phone discussions were also used.

### **4.3.2 Reflections on the project process**

#### *4.3.2.1 Fulfilment of interest and expectation of the participants*

Both interviewees felt that the results of the project have fulfilled their expectations both in terms of student learning objectives and co-operation process between the partners (including larger groups at the university level).

#### *4.3.2.2 Type of transnational co-operation envisages*

In terms of co-operation, this project was quite complex given the 2 co-operation fronts it was designed on. On the one hand, it had the co-operation between the Science Shops (2 in Romania and one in the Netherlands) and on the other hand it had the external co-operation dimension between the academic environment (Science Shop and university supervisors) and SME's, EPA's and other types of organisations. If we also consider the international dimension of these co-operation types, it becomes clear that co-operation lines in this project were complex.

#### *4.3.2.3 Problems experienced*

One of the interviewees (Dr. Henk Mulder) claimed that the project realisation was not affected by major problems, still, like in any transnational co-operation project cultural differences between the Dutch and Romanian supervisors were experienced. Also, during the Dutch team's visit in Romania the availability of the Romanian students was limited by other faculty obligations. The other interviewee, dr. eng. Carmen Teodosiu also considers that the Romanian students had to cope with many other academic tasks like regular project reports and exams. Also she sometimes felt that the Romanian students had a different level of involvement in group work, "maybe as part of the cultural differences".

#### *4.3.2.4 Benefits of the co-operation for the partners*

Dr. eng. Carmen Teodosiu stated that the Science Shop used this project experience to develop courses and case studies on the environmental practices in the industry. Now, the Science Shop in co-operation with other university departments organizes post graduate and master courses for industry representatives.

Dr. eng. Carmen Teodosiu mentioned that for the participating students this transnational research project meant more than achieving an academic curricula task because they felt it would help them a lot in their future career. Referring to the perspectives that this project opened for one of the involved students, dr. Carmen Teodosiu quoted one of the participant student:

*„This project encouraged me more in taking initiatives and responsibilities within a group; it represented a good opportunity to apply my existent knowledge for identifying the emissions and wastes produced in different technological processes, and helped me improve my communication skills, absolutely necessary to obtain the information needed from the companies or EPA, in Romania and in The Netherlands. Even if I had to work more when I came back from The Netherlands, in order to recuperate my laboratory and design assignments and to prepare the lectures that I have missed, I was never sorry for that, the participation at this international project was really a chance for me” (BS, student).*

The other interviewee, Dr. Henk Mulder, argued that this type of project makes it possible to create “win-win-win situations” for all the partners involved: the students interest for their MDOO assignment, the Dutch Science Shops interest in supporting the Romanian Science Shops and the Romanian Science Shop interest in improving the project group work of the Romanian students and for the improvement of the SME’s environmental performances.

#### **4.3.3 Desired support from Science Shops to improve transnational co-operation**

Both interviewees recognize the important role of the Science Shops in improving the transnational co-operation, in which Science Shops may contribute to find national and international project partners, to enhance the access to existent co-operation projects and networks and this fact is becoming especially important in the framework of FP7, as dr. Carmen Teodosiu states. Also Science Shops can develop common transnational research or educational programs at the request of various community groups. Common project proposal may contribute to the acquisition of funding.

#### **4.3.4 Benefits of taking part in a thematic research co-operation network**

Dr. eng. Carmen Teodosiu stated that the Science Shops participation in a thematic research network can represent a good opportunity for Science Shops through the access to new co-operation projects proposals and to the

experiences of other Science Shop organisations in terms of capacity building and organisational development.

On the other hand, dr. Henk Mulder emphasizes the fact that the Science Shop has to focus on its primary role, that of a mediator organisation and due to this fact he considers that a Science Shop can participate in such a thematic network only if it will solve a request that comes from a civil society partner or if the theme of the network matches exactly the field of expertise of the Science Shop.

## 4.4 Cooperation between the UK-USA-Spain departments dealing with community based research (case study 2)

**By George Barjoveanu**

InterMEDIU– Information, Consultancy and ODL Department, Technical University of Iasi, Romania

This section presents the summary of a transnational research co-operation project that is still running and envisages the cooperation of The Department of Sociology, Social Policy and Social Work Studies at the University of Liverpool (UK) with the Center for Urban Research and Learning (CURL) at Loyola University Chicago, USA and the Department of Sociology, University of Seville (Spain). The information on this co-operation project was offered by **dr. David Hall** (University of Liverpool, UK) and **dr. Phil Nyden** (head of CURL, Loyola University of Chicago, USA) which are both co-ordinators in this project.

### ***Title of the project:***

*A Curricular Framework for International Innovation: Sustainable and Equitable Community Reinvestment.*

### **4.4.1 Project participants**

#### **University departments and networks:**

- Center for Urban Research and Learning (CURL) at Loyola University Chicago (Science Shop).
- CoRAL Network at Georgetown University in Washington, DC.
- Department of Sociology, Social Policy and Social Work Studies at the University of Liverpool.
- Sociology Program at the University of Seville.

Apart from the organisations listed above that carry out research activities, some other types of organisations participate in this co-operation project:

**NGOs:**

- Toxteth Town Hall Research Centre, (Liverpool, UK) and related organisations
- Organisation of the NorthEast and Logan Square Neighborhood Association
- A local organisation working to save a large apartment building as affordable housing in the center of Seville

**4.4.2 Summary of the project***4.4.2.1 Project initiation*

*The Curricular Framework for International Innovation* was build upon the experiences gained by growing international networks that link "community-based knowledge" with "university-based knowledge." The project was developed considering the emerging national networks and the past accomplishments of participating universities in forging new relationships between the U.S. and European institutions.

The project was initiated considering that the university – community partnerships in both USA and Europe represent growing movements. Thus, the “Science Shop” model in Europe and the “university – community partnership”, the “service learning” or community-based research models from the USA demonstrate that the integration of the academic knowledge with the practical community experience is beneficial for the students, empowering them to tackle pressing technical and social problems once they enter the work environments.

*4.4.2.2 Project aim*

The concrete aim of the project is the sustainable and equitable community development and preservation of precious human and physical resources in cities. Equitable urban redevelopment is aimed at revitalizing the quality of life and economies in cities, while at the same time insuring that "excluded" or low-income populations are provided with housing, education, employment,

and other opportunities that will insure future self-sufficiency. Secondly, there is a need to better utilize practical knowledge and professional expertise outside the universities in the process of students and future professionals education.

#### *4.4.2.3 Methodology used*

The partners have used methods that are specific for the social science research. These methods have included literature documentation, collection of data through interviews, realization of case studies on what efforts exist in each city to produce equitable development policies and educational – training activities. The implementation of the results consists in the modification of the course curriculum at Loyola University of Chicago. The project was designed such as to permit sharing of experiences between partners and towards other interested parts.

#### *4.4.2.4 Project activities*

The main activity of the project represents the development of a 14-week Course “*Collaborative university – community approaches to equitable neighbourhood reinvestment*” which includes a manual for methodologies in community-based participatory research. Within this course there are planned some other activities: a project with student participation on equitable re-development project, a web-based communication system and exchange visits of staff between the partner institutions in the project.

#### *4.4.2.5 Expected Results and Outcomes*

Using the experience of all four universities in urban policy curriculum, internships and practices based on a university-community collaborative partnership model, and methodological training in community-based participatory research, the project produced:

- An international curriculum for a 14-week course on “Equitable Community Development”, utilizing collaborative university-community pedagogy.

- A written manual on "A *Curricular Framework for International Innovation*".
- An electronic communication system for students participating in parallel courses in different countries.
- A new curriculum to be integrated into existing university educational programs.
- A manual on developing international, collaborative university-community curriculum that would be adaptable to programs beyond the urban planning field, e.g. environmental protection, health care, early childhood education, etc.
- Communication with existing higher educational networks in the U.S. and Europe to promote utilization of the above project outcomes.

No conclusion can be drawn yet since the project is still ongoing.

#### *4.4.2.6 Project budget and timeframe*

The total budget of the project was \$ 140,000, half for the American partners and half for the European partners. CURL has provided some additional funds for the activities of the local partners in Chicago.

The project has started in September 2004 and it runs until December 2005.

#### *4.4.2.7 Communication*

Communication among local partners was done through periodic meetings and workshops. Also lectures and speeches were given by the exchange academic staff members to the partners. Discussions via the Internet represent important means of long-distance communication.

### **4.4.3 Reflections on the project co-operation process**

The project has been designed so as to develop and support the co-operation between Science Shop-like organisations, involving students and staff members and co-operation between Science Shop-like organisations and NGO's.

The project has not experienced major problems, but the interviewees have stated that they had some minor problems with a partner that was not so active like the others and did not contribute too much to the project activities. Also some delays were experienced due to the university administration.

Concerning the cooperation benefits for each partner it may be mentioned that the project web designed in such a way to allow for each partner to draw some direct benefits after the project is completed: (1) for Science Shops: better understanding of international co-operation on research and curriculum development and a common comparison basis particularly between EU countries and the US; (2) development of a network of NGO's in different cities from the US and Europe and (3) universities can benefit from strengthened connections, increased likelihood of future co-operation partnerships with other academic communities.

Regarding the interests and expectations of participants no conclusions can be drawn yet, since the project is still ongoing.

#### **4.4.4 Desired support from Science Shops to improve transnational co-operation**

The interviewees have presented some aspects that Science Shops may focus on in future transnational co-operation projects so as to improve the relationships between NGO's, researchers and Science Shops:

- Search for national / international project partners
- Access to existent co-operation projects or networks
- Develop in common project proposals on themes requested by community groups but this aspect has the limitation that different social and political circumstances make direct comparisons difficult, and different priorities due to circumstances
- Exchange information/good operational practices
- Develop in common educational or training programs but, also it is difficult to have one model that fits all educational patterns, instead it is easier to have different programs that share aims and cases
- Dissemination of existent knowledge at national and international level

#### **4.4.5 Benefits of taking part in a thematic research co-operation network**

By sharing knowledge among university partners and among community-based organisation partners, local communities can gain knowledge and innovative ideas from other organisations that might be transferred to their local community. This avoids “reinvention of the wheel” by NGOs that typically have very limited budgets, so this more effectively uses resources aimed at addressing social problems in urban areas (dr. Phil Nyden).

### **4.5 Summary of previous and recent experiences with transnational research co-operation among Science Shops**

#### **By Søsner Brodersen**

Science Shop DTU, the Technical University of Denmark, Lyngby, Denmark

Four experiences with transnational research co-operation among Science Shops have been described and discussed in this chapter. **The four co-operations** described are:

- Co-operation between Science Shop for Biology, Utrecht University and Queens University Belfast Science Shop. The project was titled: *“The Impact of Stroke on lay carers”*.
- EU project Zer0-M
- Co-operation between Romanian and Dutch Science Shops. The project was titled: *“EMS in Factories: The Introduction of Environmental Management Systems in the Metal Processing and Ceramic Industry in Romania and the Netherlands”*.
- Co-operation between the UK-USA-Spain departments dealing with community based research. The project was titled: *“A Curricular Framework for International Innovation: Sustainable and Equitable Community Reinvestment”*.

The aim in this summary is to sum up the points of views and recommendations made by the participants in relation to improving future transnational co-operation among Science Shops.

The **benefits of the co-operation** were mentioned by the participants in the four studies to be:

- It was useful, challenging and broaden their perspective in relation to future international co-operation between Science Shops and students (de Bok, 2005; Martin, 2005)
- New potentials of international mediated student co-operation would benefit both the students and the Science Shops position in education (de Bok, 2005; Martin 2005)
- The Queens University and the Science Shop were made aware of an increased need for setting up structures in order to facilitate international students (Martin, 2005)
- The NGO got an highly qualified report (Martin, 2005)
- The NGO got an international perspective on the problem investigated, which participated to broaden the perspectives of the problem (Martin, 2005)
- New knowledge was developed (Zer0-M)
- Gained experiences with transdisciplinary research and co-operation with Middle East and Mediterranean countries (Zer0-M)
- New courses and case studies was initiated based on the project experiences (Romanian/Dutch Science Shop case)
- Very useful for the students in relation to their future career (Romanian/Dutch Science Shop case)
- Better understanding of international co-operation on research (UK-USA-Spain case)
- Curricular development (UK-USA-Spain case)
- Development of a NGO network between US and European (UK-USA-Spain case)

The participants however also mentioned **some problems and barriers experienced** which future transnational co-operation needs to address or reflect upon:

- Requirements and procedures to students (de Bok, 2005; Martin, 2005; Romania/Dutch Science Shop case)
- Formal procedures at the universities for foreign students (de Bok, 2005; Martin, 2005)
- Supervising requirements (de Bok, 2005; Martin, 2005)
- Cultural differences (Romanian/Dutch Science Shop case)

The interviewees were asked which **support they would desire from Science Shops** in order to improve transnational co-operation, and their views were:

- Search for national/international project partners (de Bok, 2005; Zer0-M; Romanian/Dutch Science Shop case; UK-USA-Spain case)
- Access to existent co-operation projects or networks (de Bok, 2005; Martin, 2005; Zer0-M; Romanian/Dutch Science Shop case; UK-USA-Spain case)
- Develop in common project proposals on themes requested by community groups (de Bok, 2005; Marin, 2005; Zer0-M; Romanian/Dutch Science Shop case; UK-USA-Spain case)
- Exchange information/good operational practices (de Bok, 2005; Martin, 2005; UK-USA-Spain case)
- Linking topics in one country to another country (de Bok, 2005)
- Perceived local problems may be problems experienced in other communities and solutions could be sought together – making clear that local problems may not be as local as perceived
- To bring NGOs together and make them aware that they face the same problems just in different contexts (de Bok, 2005)
- Science Shops could make local problems interesting to the researchers by bringing together NGOs and scientists at international level to show them that problems experienced in one country also are experienced in other countries (de Bok, 2005)

- There is a need for much more thematically co-operation between the Science Shops (de Bok, 2005)
- Dissemination of existent knowledge at national and international level (Martin, 2005; UK-USA-Spain case)
- Introduce the approach of transdisciplinary research and co-operation (Zer0-M)
- Develop in common educational or training programs (UK-USA-Spain case)

The interviewees saw several **benefits of taking part in a thematic research co-operation network**:

- Linking organisations across countries who deal with the same topics or problems. This would enable local or regional community organisations to bring their issue out of the local context and into a more global context (de Bok, 2005; Zer0-M; Romanian/Dutch Science Shop case)
- Broaden the perspectives of a given problem (Martin, 2005; UK-USA-Spain case)
- Strengthening the Science Shops expertise and position within the universities.
- Learning and sharing of experiences with other Science Shop (de Bok, 2005; Martin, 2005)
- By recognition of the international dimension of local issues the Science Shops can use it as a strategic benefit to show that they are not only dealing with local issues of minor scientific importance (de Bok, 2005)
- Training of students in an international context (de Bok, 2005; Martin, 2005)
- Attractiveness of projects for students (de Bok, 2005)
- Development of new research themes and co-operations (de Bok, 2005; Zer0-M; Romanian/Dutch Science Shop case)
- Capacity building/development of organisations (Zer0-M; Romanian/Dutch Science Shop case)

For future transnational research co-operation the interviewees mentioned the following **considerations and recommendations**:

- Structure and formal procedures for having a foreign student doing a research has to be put in place within the universities (including responsibilities of supervision of foreign students) (de Bok, 2005; Martin, 2005)
- The content of the research project – which requirements are set for the students; what to be researched and how, needs to be very clear from the beginning (de Bok, 2005)
- Make sure a cross analysis component are part of a future co-operation, rather than as this project, being only locally based (de Bok, 2005)
- Face-to-face meetings: it would be most appropriate if the 'home' Science Shop is able to participate in at least the last meeting between all the actors (de Bok, 2005)
- Awareness of extra staff time needed to organise and support transnational projects
- Good working relationship with transnational partner to deal effectively with any problems which might emerge during the process.

## 5 Identification of other relevant topics and tools for thematic co-operation

**By Andrea Gnaiger**

Institut für gesellschaftswissenschaftliche Forschung, Bildung und Information (Institut FBI), Innsbruck, Austria

### 5.1 Introduction

The aim in this chapter is to identify relevant topics and tools for thematic co-operation between NGOs, scientists and Science Shops. As described in chapter 3, all project partners involved in the pilot project of sustainable water management and land use conducted national interviews with representatives of the four target groups – scientists, Science Shop staff, NGO's and governmental officials. The main aim of the interviews was to identify potential partners for the ISSNET Pilot Project (Sustainable Water Management and Land Use), to assess their opportunities for transnational co-operation and to provide useful information on their activities, interest for developing co-operation programmes on the topic of the pilot. Furthermore we were also interested in finding out if there are ideas for other relevant topics for potential co-operations. One question was specifically dedicated to this issue.

|                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------|
| <p><i>Q 8. Are there any other topics that you consider suitable for trans-national research co-operation?</i></p> |
|--------------------------------------------------------------------------------------------------------------------|

The interview partners came up with many suggestions for topics they would be interested in. The suggested topics are, as expected, within the field of their expertise, which covers the broad field of sustainable water management, land use, and more general all kinds of environmental issues. A complete table on these suggestions also mentioning the co-operation needs and the existing resources is provided in chapter 3.15 in the sub-chapter concerning the cross analysis.

### **5.1.1 How to identify other relevant topics and tools for transnational research cooperation?**

To find out about other relevant topics and tools for transnational research co-operation an Internet research on EU-programmes, funding lines and existing international co-operations and projects was considered as the most suitable tool. In a first step it was tried to get an overview on EU-Programmes. The homepage [www.eu-foerderungen.at/](http://www.eu-foerderungen.at/) provides an overview on selected EU-programmes and support activities in alphabetical order. This overview is in fact a rather extensive list mentioning more than 130 EU-programmes and funding lines. This list includes large programmes and funding lines such as the 6th Framework programme, Leader+, Socrates or Craft and Daphne II.

Based on the common standards and principals for Science Shops (such as: participatory approach, mediator function between science and society, antenna function, translator function, blending together of scientific knowledge and experiential knowledge) and the experience of Institute FBI with funding lines such as EQUAL and GRUNDTVIG II, a restricted number of EU-programmes was selected for further investigation. It was necessary to restrict the number of programmes as within a reasonable time it is not possible to investigate all EU-programmes.

The first choice for deeper investigation with respect to other relevant topics and tools for transnational research co-operation, than within the area of sustainable water management and land use, was the 6<sup>th</sup> Framework Programme, which focuses on research activities. It was tried to get an overview on how many projects are conducted, on which topics and where the focus is. Within the 6<sup>th</sup> Framework Programme a closer look was taken at the activity areas “Thematic Areas” and “Structuring the ERA”, where so far all Science Shop projects have been handed in.

## 5.2 Results of the Internet Research

### 5.2.1 Overview on European financed Programmes and Projects

In the following the European financed programmes are divided into themes and target groups. At the moment there are 133 programmes. The **6th Framework Programme** comprises some of the above mentioned programmes and facilitates research and development. It is subdivided into 5 category groups (research areas and research activities) which are:

*a) Thematic areas:*

- Life, science, genomics and biotechnology for health
- Information society technologies
- Nanotechnologies and nanosciences, knowledge-based multifunctional
- Materials and new production processes and devices
- Aeronautics and spaces
- Food quality and safety
- Sustainable development, global change and ecosystems
- Citizens and governance in a knowledge-based society

*b) Strengthening the foundation of the ERA*

- Coordination of research activities
- Development of research/innovation policies

*c) Structuring the ERA*

- Research and innovation
- Marie Curie Actions - Human resources and mobility
- Research infrastructures
- Science and Society

*d) Nuclear Energy*

- Controlled thermonuclear fusion
- Management of radioactive waste
- Radiation protection
- Other activities in the field of nuclear technologies and safety

e) *Cross-cutting Research activities*

- Research for policy support
- New and emerging science and technology (NEST)
- Specific SME activities
- International cooperation activities
- JRC activities

So far all Science Shop projects have been handed in under "Science and Society" therefore this area has been included in the comparative analysis of the activity Area "Thematic Areas".

### **5.2.2 Conducted projects within the 6<sup>th</sup> Framework Programme**

A compilation of all at present conducted projects within the 6th Framework Programme reveals the following:

- At present there are all together 2262 projects covering all activity areas.
- By far the most projects, 784 or 35% are conducted within "Marie Curie Actions - Human resources and mobility".
- The second very strong represented area "Information society technologies" holds 401 projects (18%).
- "Sustainable development, global change and ecosystems" ranks third with 152 Projects, which are 7%.
- The following domains rank between 6 % and 0% and hold between 129 and 0 projects.
- There are also domains with no current project (at least not accessible via internet) such as "Management of radioactive waste", "New and emerging science and technology" and "Other activities in the field of nuclear technologies and safety".
- The area "Science and Society", which belongs to "*Structuring the ERA*" holds just 45 projects or 2%.

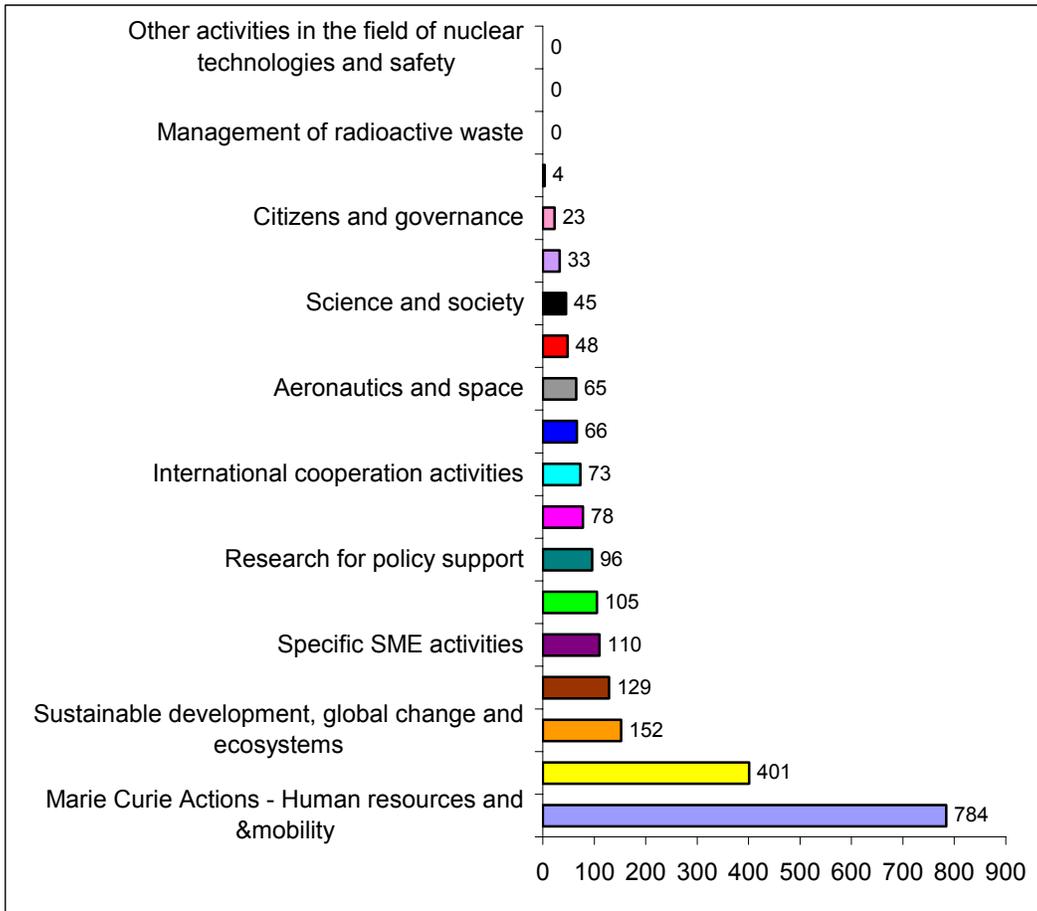


Figure 5.1: Overview of the EC FP6 Programmes

Having a closer look at the **activity area "Thematic Areas"**, the following can be observed:

- The area "Information society technologies" holds the most projects or 45%
- "Sustainable development, global change and ecosystems" ranks second with 17%
- "Nanotechnologies and Nanosciences etc." ranks third with 14%,
- On the 4th rank "Life sciences, genomics and biotechnologies" with 9%,
- On the 5th rank "Aeronautics and space" with 7% of the projects.

- The smallest part is taken up by the area "Citizens and governance in a knowledge based society", which is considered as very important by Science Shops.
- Including "Science and Society" into this comparative ranking it would be the last but one conjointly with "food quality and safety". The area holds only 5% of the projects.

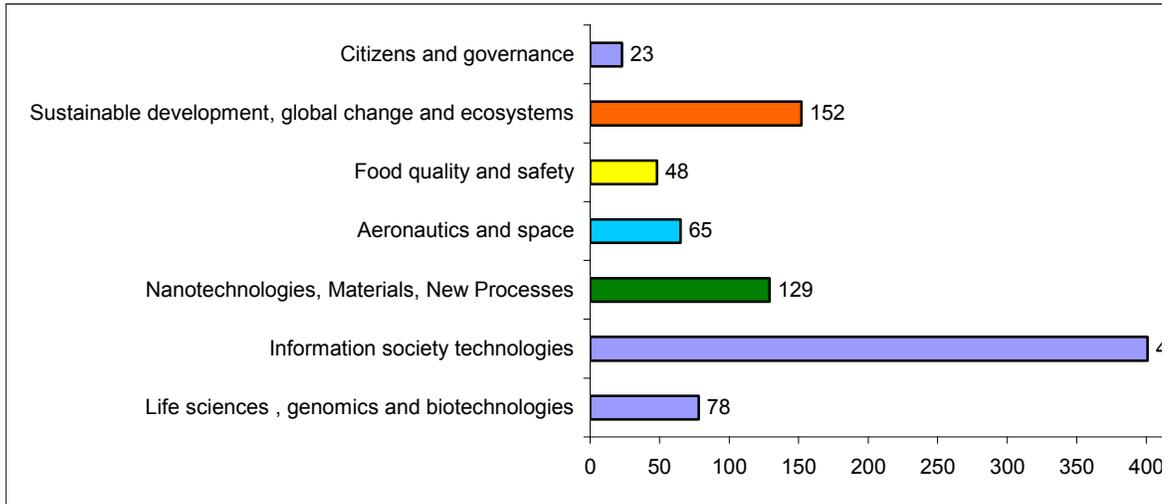


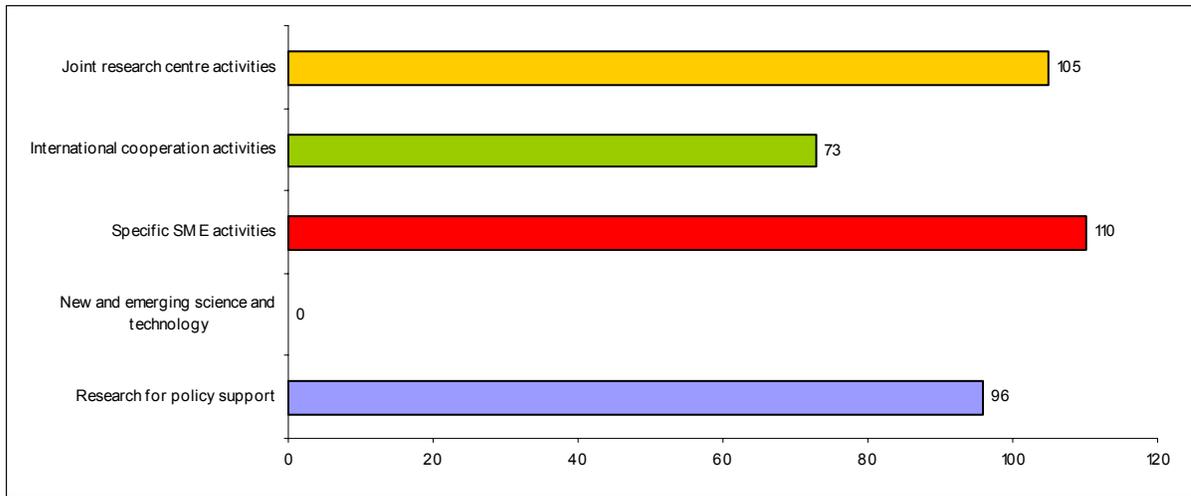
Figure 5.2: Thematic areas

Having a closer look at the **other activity areas of the 6th Framework Programme**, the following can be observed:

**"Cross-cutting research activities"** nearly cuts into four parts:

- Research for policy support – 96 projects
- Specific SME activities - 110 projects
- International cooperation activities - 73 projects
- Joint research centre activities - 105 projects

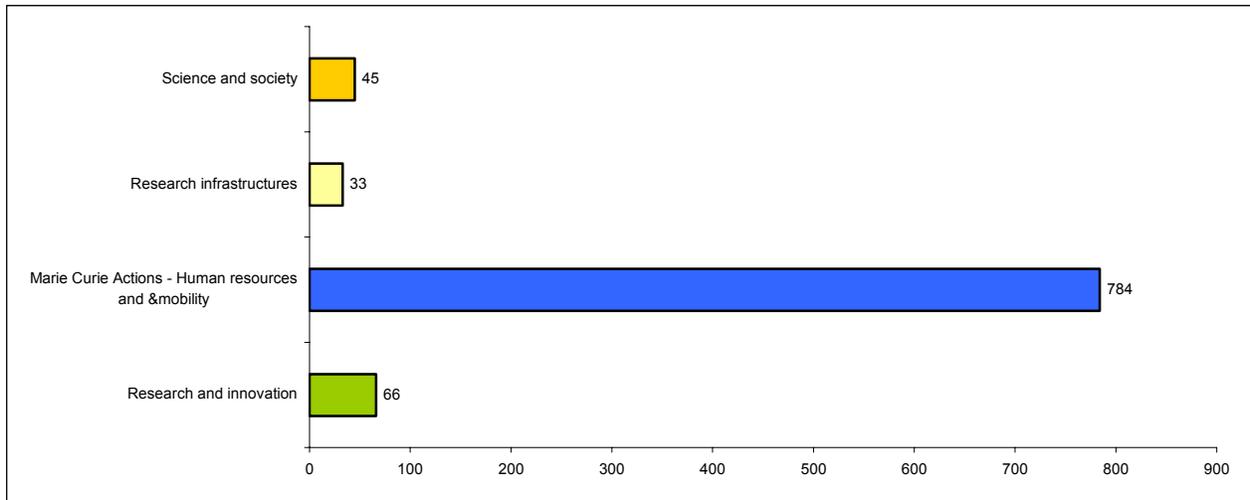
- An Internet research on the 5<sup>th</sup> activity area "New and emerging science and technology" did not produce any hits.



**Figure 5.3: Cross-cutting research activities**

The activity area “**Structuring the ERA**” is most interesting for Science Shops as this is the, so to say “home base” where projects are handed in. It is subdivided into:

- “Research and innovation“ with 66 Projects or 7%
- “Research infrastructures“ with 3 projects or 4%
- “Science and Society“ with 45 projects or 5%
- "Marie Curie Actions" with 784 projects or 84%.



**Figure 5.4: Structuring the European Research Area**

Taking together all activity areas from the 6th Framework Programme it is incidental that “Marie Curie Actions“ makes up the biggest part with 35 % of all projects conducted, followed by "Information society technologies" with 18%. The area "Sustainable development, global chance and ecosystems" which in the eyes of the Science Shops is considered as very important is ranked on the third place holding only 7 % of the projects conducted within the 6<sup>th</sup> Framework Programme. All other activity areas have small shares ranking from 0% up to 6 % of all projects conducted within the 6<sup>th</sup> Framework Programme.

### 5.2.3 Where else could Science Shops come in?

There might be quite a wealth of opportunities for Science Shops to establish themselves outside the domain of Science and Society, where they carry out projects on knowledge transfer and the work of the Science Shops themselves. Taking the EQUAL programme as an example, the functions a Science Shop could take in such a project will be discussed in the following.

EQUAL projects are typically modular. The participating partner organisations are working individually or in small groups of two or three partners in four to six modules. The modules are thematically grouped and within each theme they work with different target groups, methods or individual objectives. The common theme is thus approached from different sides and treated from different angles. Usually one of the modules is a basic study of the topic, with the results being used to plan the steps for the other modules and to adapt them for specific target groups. In one of the modules partners takes on the coordination of the whole project. Partners are various organisations such as university departments, employer and employee side associations, NGOs, advisory bodies and self-employed persons or SMEs.

Here is the first point of entry for using a Science Shop within an EQUAL project. Science Shops are experts in communication processes on various levels, as well as professional mediators in the dialogue between theory and practice. EQUAL projects are also committed to innovation. Here too the Science Shops are predestined to play a role, given their proven “antenna function” in the INTERACTS<sup>2</sup> project. Science Shops spot and identify new demands for research and social themes that need to be explored. One of the unique aspects of Science Shops is that they can translate such questions from the realm of practical issues into academic/scientific problems so that they can be treated in an adequate and scientific form. Science Shops have the necessary contacts to students and university institutions and can easily find suitable people for the required basic studies. Science Shops staff also has special skills to facilitate, chair and evaluate processes within a project and the ongoing communication of the people working in the project. They would be particularly well employed in coordinating the project. The FBI’s experiences from four EQUAL projects have shown that the task of the

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<sup>2</sup> INTERACTS, Improving Interaction between NGO’s, Universities and Science Shops. Experiences and Expectations. A project funded by the European Commission/DG 12 under the Fifth RTD Framework Programme

coordinating partner is highly complex and demanding. The coordinating partner has to start processes that are not defined in any detail and keep them going. This task is often underestimated or taken on by people who are neither trained for it nor have relevant experience in this field. The inevitable concentration on running their own module further overwhelms the coordinating partner. Science Shops staffs are used to translate between theoreticians and people from the practical sphere, to mediate between staff from diverse organisations including NGOs and to maintain the communication between all participants going in an egalitarian and process-orientated way.

It is therefore strongly recommended to involve Science Shops with their specific know-how in such projects.

#### **5.2.4 Moving from the 6<sup>th</sup> to the 7<sup>th</sup> Framework Programme**

The 7<sup>th</sup> Framework Programme (FP7), at least in its proposed form, takes up the themes of the 6<sup>th</sup> Framework Programme (FP6) and reorganises them. “Health” becomes a specific thematic domain of its own, biotechnology joins food and agriculture, information society technologies are transformed into information and communication technologies. Nanotechnologies remain, aeronautics and space are separated, with aeronautics joining the new thematic domain of transport, while space forms a new thematic domain with security. Life sciences lose their biotechnology section and become the highly promising domain of socio-economic sciences and the humanities, while sustainable development, global change and ecosystems form the environment domain, with climate change explicitly cited as sub-domain. Energy is added as a new domain.

The redefinition of the domains seems less technology-driven than in FP6, the terminology is broader and this could allow for a greater variety of project proposals.

The domains food, agriculture and biotechnology, energy and transport support healthier life-worlds for the population of Europe, with bio-economy, renewable energy, reduction of CO<sup>2</sup> emissions and “greener” transport being explicitly cited in the description of the themes. Technology is again very prominent in FP7 and covers information and communication technology, nanotechnology, technologies to ensure the security of citizens and fusion energy research. The domain socio-economic sciences and humanities is of particular interest for the Science Shops. According to the description of this domain, its research will “aim to generate an in-depth, shared understanding of the complex and interrelated socio-economic challenges Europe is confronted with, such as growth, employment and competitiveness, social cohesion and sustainability, quality of life and global interdependence, in particular with the view of providing an improved knowledge base for policies in the fields concerned.”

Science Shops could play a major role here. In their work on knowledge transfer they are used to encouraging the participation of the affected people in research from the word go. Hence they could express the needs of the population as scientific problems and place them with the research production sites. The antenna and translator function of Science Shops has been proven in a number of INTERACTS case studies and could make an important contribution to the proposal and implementation of targeted, innovative projects. The network of Science Shops would facilitate the search for participants in trans-national partnerships.

#### **5.2.5 Science Shop related topics with respect to at present conducted projects**

##### **Within "Science and Society":**

Here quite a wealth of topics, can be found, related to outreach activities of science, such as "European Science Festival" (FP6-Society 2500, ESCIENTIAL) or "Cinema and Science" (FP&-Society 511114, CИСCI), which

contribute to the dialogue between science and society and are specifically supporting women in science. In the context of stepping up the dialogue between science and society Science Shops are to be named first as suitable project partners. In the context of the EU-project "INTERACTS" 5 Scenario Workshops involving representatives of Science Shops, politicians, NGOs and scientists have been conducted focusing on the topic "improving the dialogue between science and society". The results confirm the important role Science Shops play in this relationship and furthermore point to an even stronger involvement of Science Shops (For further details see: Gnaiger Andrea, Gabriela Schroffenegger, Austrian Participatory workshop report, the Innsbruck Workshop, August 2003).

The action line "Stepping up the science-society dialogue and women in science - Young peoples' interest in scientific careers, which at present holds 16 projects (out of 45, which is 45,5%) seems to be a domain of general interest for Science Shops or to put it bluntly perfectly matching the Science Shops expertise.

Projects focusing on "learning" and "future education-systems" such as "Launching a Visionary Quest for the Intelligent School of Tomorrow" (FP6-Society 508865, SCHOOL-FORESIGHT) and "Permanent European Research Center for Informal Learning" (FP6-Society 511165, PENCIL), "Renovation of science teaching in European primary education with inquiry methods" (FP6-Society 511164, SCIENCEDUC) also seem to be suitable for Science Shops. The experiences of Institut FBI as a partner organisation in the Socrates, Grundtvig II Learning Partnership „the Knowledge shop“, which is now in its third year, confirms the role model function of Science Shop approaches such as participation of different actor groups. The translator function of Science Shops could also play a role in projects dealing with knowledge transfer between different scientific disciplines, for example:

Challenges of Biomedicine - Socio-cultural contexts, European Governance and Bioethics (FP6-Society 510238, COB).

The Action Line "Bringing research closer to society" seems to be very promising. The seven projects mentioned focus on the integration of media, conferences, Science centers and museums. Very close to the ideological approach of Science Shops are the following projects: "Citizen Participation in Science and Technology" (FP6-Society 13518, CIPAST) and "Participatory Approaches in Science and Technology" (FP6-Society 510636, PATH).

**Further Programmes and projects (under Thematic Areas):**

*Citizens and Governance:*

Within this thematic area, several projects of interest for Science Shops can be found. Just to select a few out of many:

- Active Civic Participation (FP6-CITIZENS 506599, CIVICACTIVE)
- Changing Knowledge and Disciplinary Boundaries Through Integrative Research Methods in the Social Sciences and Humanities (FP6-CITIZENS 506013, RESEARCH INTEGRATION)
- The Flexible Professional in the Knowledge Society New Demands on Higher Education in Europe (FP6-CITIZENS 506352, REFLEX).

*Sustainable development, global change and ecosystems:*

The projects in this area are mainly supporting research, introducing new methods and/or technologies or combining scientific disciplines. They are rather seldom addressing practitioners or looking for the cooperation/participation of those concerned. Searching the 152 project listed in this line 7 examples were found where it could be possible to involve Science Shops and/or to buildup a participatory component:

- Coordination of Concepts for new collective transport (FP6-SUSTDEV 506959, CONNECT)

- Natural risks assessment harmonisation of procedure, quantification and information (FP6-SUSDEV 511264, NA.R.AS)
- Scenarios for the Transport System and Energy Supply and Their Potential Effects (FP6-SUSDEV 506310, STEPS)
- Introducing Tools for Agricultural Decision Making under Climate Change - Conditions by Connecting Users and Tool Providers (FP6-SUSDEV 3944, AGRIDEMA)
- Sustainability Impact Assessment: Tools for Environmental, Social and Economic Effects of Multifunctional Land Use in European Regions (FP6-SUSDEV 3874, SENSOR)
- Raising citizens and stakeholders awareness, acceptance and use of new regional and urban sustainability approaches in Europe (FP6-SUSDEV 3989, RAISE)
- Mobilising the European Social Research Potential in Support of Biodiversity and Ecosystem Management (FP6-SUSDEV 505429, SOBIO)

*Food quality and safety:*

As mentioned above, a focus on technology can also be seen in this area. The combination of new ideas, methods and disciplines, a strong focus on research of very specific topics and a general lack of dialogue/communication with the society seems to characterize this area. Nevertheless some project (5 out of 48) could be found where Science Shops could contribute too:

- Improving the quality of life of elderly people by co-ordinating research into malnutrition of the frail elderly (FP6-FOOD 506382, NUTRI-SENSE)
- Training Network for National Contact Points and support organisations with special focus on Candidate Countries in the areas of Food Quality and Safety (FP6-FOOD 506518, TRAINNET FUTURE)
- Farm animal cloning and the public. A project to facilitate a European public debate and to make recommendations on regulation and on

guidelines for research and applications of farm animal cloning (FP6-FOOD 514059, CLONING IN PUBLIC)

- Disseminating the results of EC funded research into food quality and safety to facilitate their transfer and exploitation into new products and processes to improve European health and well-being (FP6-FOOD 505997, BIOPRODUCTS 4 FOOD)
- Integration of European Food Safety Research from Producers to Consumers (FP6-FOOD 506261, IRFOS)

*Information society technologies:*

Within this large area 22 projects were found (5,5 % out of 401 projects) focusing on activities of the civil society, participation or new learning. These projects seem also suitable for Science Shops participation:

- Integrating Knowledge, semantics and content for user-centred intelligent media services (FP6-IST 1765, ACEMEDIA)
- Computers in the Human Interaction Loop (FP6-IST 506909, CHIL)
- Methodology and tools infrastructure for the creation of knowledge units (FP6-IST 507164, METOKIS)
- Technology to support sustainable humanitarian crisis management (FP6-IST 511705, STREAM)
- Strengthening Inclusion and Accessibility across Europe (FP6-IST 502553, EINCLUSION@EU)
- New and Emergent World Models Through Individual, Evolutionary and Social Learning (FP6-IST 3752, NEW TIES)
- Supply Networks (FP6-IST 506673, CO-DESNET)
- Enabling users for - Distance-working and Organizational Mobility using Ambient Intelligence service networks (FP6-IST 4420, EU-DOMAIN)
- Conferences, Workshops, Seminars and Tutorials to Support e-Inclusion (FP6-IST 4111, CWST)

- Understanding Networks of Learning Design (FP6-IST 507835, UNFOLD)
- Social Capital, Quality of life and Information Society Technologies: Evidence-based dynamic modelling support for the IST Priority (FP6-IST 507753, SOCQUIT)
- An intelligent support environment to improve the quality of decision processes in health communities (FP6-IST 507017, CARE-PATHS)
- The Future of Identity in the Information Society (FP6-IST 507512, FIDIS)
- Towards the area of personal services at home and everywhere (FP6-IST 506775, EPERSPACE)
- The Portal for Projects and Communities In the Virtual Organisation Domain (FP6-IST 507469, VE-FORUM)
- Network of Excellence Professional Learning (FP6-IST 507310, PROLEARN)
- Structuring European Biomedical Informatics to Support Individualised Healthcare (FP6-IST 507585, INFOBIOMED)
- Network of Excellence on Digital Learning (FP6-IST 507618, DELOS)
- Designing the Classroom of Tomorrow by using advances technologies to connect formal and informal environments (FP6-IST 507844, CONNECT)
- Concepts and Methods for exploring the future of learning with digital technologies (FP6-IST 507838, KALEIDOSCOPE)
- Building knowledge driven and dynamically adaptive networked communities within European healthcare systems (FP6-IST 507126, COCOON)
- Human centred design for Information Society Technologies (FP6-IST 507420, HUMANIST)

This overview on potential projects under „Thematic Areas“ is incomplete as searching under “Nanotechnology and Life sciences“, ”Genomics and

biotechnology for health“, and “Aeronautics and space“ did not seem to be very promising for Science Shops.

**5.2.6 Programmes beyond the 6th Framework Programme which seem to be suitable for Science Shop involvement:**

- Advancement of an Active European Citizenship
- Advancement of Non Governmental Organisations working in environmental protection
- Joined actions of the Programmes SOCRATES, Leonardo da Vinci
- EQUAL – focusing on the labor market and employment initiatives
- Equal opportunities for women and men - EU-Programme on the advancement of equal opportunities
- GRUNDTVIG – adult education under SOKRATES-Programme
- INTERREG III – promoting the co-operation between EU-regions
- LEADER + - Supporting economically underdeveloped rural regions
- LIFE III – Supporting the EU-environmental policy
- Mutual Learning Programme (MLP) - "to learn from each other"
- SOCRATES
- SOCRATES, M8 – accompanying measures
- Social dialogue – Activities of social partners, public authorities, NRO and research Centers focusing on working relations
- Supporting international non-governmental youth organisations

It is recommended that the Science Shops look through the various programmes and programme lines of the EU and search for new “docking stations” for their integrative, cross-discipline and practice-orientated work and to position themselves as competent partners on the project market. Their commitment would strengthen an area that is concerned with bringing together research and technological development with those who apply the results and are affected by them, where acceptance and progress get equal weighting

with the development of the social environment, awareness of each other and with shaping a future worth living in for as many people as possible.

### **5.2.7 The problem of sustainability**

The projects supported by the EU are meant to develop innovative ideas and implement them as models in certain areas of application or for certain target groups. Apart from innovation, the EU is mainly interested in sustainability and public relations. There is an immense wealth of project results and reports following on from these programme lines. Since the demand for innovation forces even experienced EU project participants to create ever new project proposals, it is not surprising that sustainability is underdeveloped in these projects. The duration of the projects is usually too short to follow through the often ambitious projects, which, due to their innovative character, cannot be scheduled to fit precisely into the allotted timeframe. This affects not so much the work on the model (trial) but the work on its publication and implementation. Internationally too, a lot more proven models could be exchanged if the obligation to be innovative would not prevent this. Science Shops could very professionally take on the difficult communication task that is indispensable for the implementation of pilot projects in ordinary processes. We therefore propose to divorce the demand for sustainability from the innovation projects, finance it separately and hand it over to communication and knowledge transfer professionals in cooperation with the initial researchers and developers. The network of European Science Shops is among the organisations most suitable for taking on such a task.

## **5.3 Summary of relevant topics and tools for thematic transnational co-operation**

To supplement the suggestions to topics and tools for thematic transnational co-operation identified through interviews conducted in relation to the pilot project of sustainable water management and land use, an Internet research

on EU-programmes, funding lines and existing international co-operations and projects was conducted. Starting from the Austrian homepage [www.eu-foerderungen.at/](http://www.eu-foerderungen.at/), which provided an overview on selected EU-programmes and support activities (more than 130 EU-programmes), a restricted number of programmes was selected for further investigation.

First, the **6th Framework Programme** was explored. This framework focus on research activities and hosts the funding line "Science and Society" where, so far, all Science Shop projects have been handed in. A compilation of all at present conducted projects (2262) within the 6th Framework programme revealed the following:

- By far the most projects (784) are conducted within „Marie Curie Actions – Human resources and mobility“ with 35 %
- In the "Information society technologies" 401 projects (18%) are conducted.
- The area „Science and Society“ holds just 45 projects or 2 % of the projects.

A deeper investigation of the activity area "Thematic Areas" revealed that the fewest projects are conducted within the area "Citizens and governance in a knowledge based society", which is considered as very important by Science Shops.

Having a closer look at the activity area "Structuring the ERA", which is most interesting for Science Shops, revealed that the biggest part is taken up by „Marie Curie Actions" with 784 projects or 84%. "Science and Society" holds just 45 projects or 5 %.

Taking together all activity areas from the 6<sup>th</sup> Framework Programme it is incidental that "Marie Curie Actions" makes up the biggest part with 35 % of all projects conducted, followed by "Information society technologies" with 18%. The area "Sustainable development, global change and ecosystems" which in the eyes of the Science Shops is considered as very important is ranked on

the third place holding only 7 % of the projects conducted within the 6th Framework Programme.

This rather limited possibilities for Science Shops to apply for projects within the 6th Framework Programme raise the question where else Science Shops could apply. There might be quite some opportunities for Science Shops to establish themselves outside the domain of "Science and Society", where they carry out projects on knowledge transfer and the work of the Science Shops themselves. The EQUAL programme is one example.

**The 7<sup>th</sup> Framework Programme** (FP7), at least in its proposed form, takes up the themes of the 6<sup>th</sup> Framework Programme (FP6) and reorganises them. The redefinition of the domains seems less technology-driven than in FP6, the terminology is broader and it seems to allow for a greater variety of project proposals also for Science Shops. The domain "socio-economic sciences and humanities" is of particular interest for the Science Shops. According to the description of this domain, its research will *"aim to generate an in-depth, shared understanding of the complex and interrelated socio-economic challenges Europe is confronted with, such as growth, employment and competitiveness, social cohesion and sustainability, quality of life and global interdependence, in particular with the view of providing an improved knowledge base for policies in the fields concerned"*. Science Shops could play a major role here. In their work on knowledge transfer they are used to encouraging the participation of the affected people in research. Hence they could express the needs of the population as scientific problems and place them with the research production sites.

Within "Science and Society" several topics related to outreach activities of science could be found. Many of them, such as "European Science Festival" (FP6-Society 2500, ESCIENTIAL), "Cinema and Science" (FP&-Society 511114, CISCI), the action line "Stepping up the science-society dialogue and women in science - Young peoples' interest in scientific careers", or "Permanent European Research Centre for Informal Learning" (FP6-Society 511165, PENCIL) seem to be suitable for Science Shops. Although within the

other Thematic Areas plenty of projects and action lines seem promising for Science Shops.

**Beyond the 6<sup>th</sup> Framework programme**, programmes such as EQUAL, GRUNDTVIG, LEADER + or LIFE seem to be suitable for Science Shops. It is highly recommended that the Science Shops look through the various programmes and programme lines of the EU and search for new “docking stations” for their integrative, cross-discipline and practice-orientated work and to position themselves as competent partners on the project market.



## **6 Strategies and challenges for transnational research co-operation**

**By Carmen Teodosiu, Søsser Brodersen, Michael Søgaard Jørgensen**

Science Shops are organisations that offer citizens' groups free or very low-cost access to scientific and/or technological knowledge and research in order to help them achieve social and environmental improvement. Originally developed at Dutch universities during the 1970s, Science Shops now also exist in Austria, Denmark, Germany, Romania, Spain and the United Kingdom, as well as in a number of non-European countries (including Canada and the United States of America). By definition, Science Shops provide independent, participatory research support in response to concerns experienced by civil society. They act as intermediaries between the RTD system and the public at large, dedicated to better connection of scientific expertise and the public by aligning available knowledge with public concerns. The term 'science' in our sense is used broadly and includes the social and human sciences, as well as natural, physical, engineering and technical sciences (<http://www.livingknowledge.org>). Three main organisational structures: "university -based", "independent" or "mixed independent with university-based" are characteristic to Science Shops, their organisational and operational patterns being highly dependent on their national context. According to estimates during the last 10 years there are around seventy Science Shops in Europe now.

Science Shops today are characterised by a remarkable diversity of fields of expertise, organisational forms and structures, working approaches and activities, and so far, there have been developed quite some information materials related to the issues. The EC financed projects SCIPAS, INTERACTS, ISSNET and recently TRAMS have provided reports and other documents/publications about the organisational and operational aspects, research and educational activities, projects and experiences related to the interaction between NGOs, universities, and Science Shops, training and

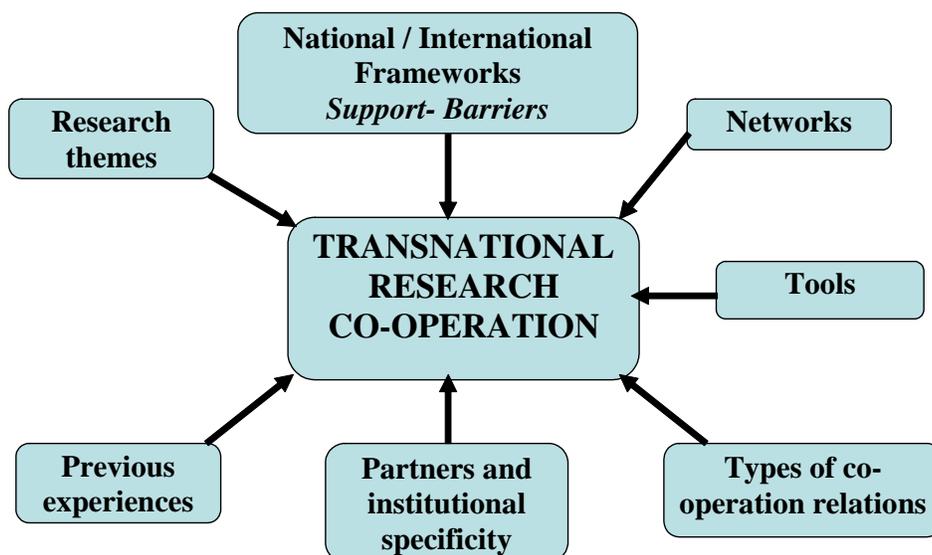
mentoring needs, creation of the international network of science shops, specific tools that can promote communication and co-operation in the network (such as the Living Knowledge newsletter and LK magazine) (more information can be downloaded from <http://www.livingknowledge.org>).

The ISSNET Workpackage 4 Report on *Transnational Research Co-operation* refer to the improvement of international exchange of information and good practices on themes of mutual interest for Science Shops and community groups in different countries. Considering a series of activities that initially involved co-operation between ISSNET partners on a specific topic (*Sustainable Water Management and Land Use*), as well as international research projects undertaken previously through intermediaries such as Science Shops, this workpackage envisages the development of concepts and procedures that may promote transnational co-operation on a variety of topics at the level of the international science shop network.

The ISSNET Workpackage 4 had approached the issues of transnational research co-operation by taking into consideration the following dimensions as shown in Fig.6.1.

1. **Partners** (NGOs, universities, Science Shops, and governmental institutions) and their institutional specificity (in some cases this can be related also to the forms in which Science Shops are organised and operate, i.e. university and non-university based Science Shops)
2. **Types of co-operation relations** that have been developed so far and are interesting to be developed in future
3. **Tools that can promote transnational research co-operation**
4. **Networks at national and international level**, e.g. their role and support needed
5. **Research themes** that are of interest for community groups and that can be the subject of knowledge production and exchange, or may be developed in future co-operation programs within the areas of sustainable waster management and land use
6. **Previous experiences** of transnational research co-operation

7. **National and international frameworks, programs or other conditions** that can promote or limit trans-national co-operation.



**Figure 6.1: Transnational Research Co-operation and influencing factors**

This chapter summarizes the conclusions of the different WP4 activities, which have been presented in this report.

### **1. Partners and institutional specificity**

Science Shops that have participated in this study have particularities related to both their institutional framework (organised as entities at faculty/university level or as an NGO structure) and to the types of organisations with whom they co-operate. Due to the specific role that Science Shops have as interface organisations between universities and civil society the main co-operation partners identified are:

- NGOs and citizen groups
- Scientists/researchers, students
- Governmental organisations (local, regional or national)
- Science Shops at national or international level

Irrespective of their organisational form (part of universities or NGOs), Science Shops have formal and informal relations with specific universities. However there are several differences mainly related to the operational level such as:

- In university-based Science Shops, projects are carried out mainly by students, under the supervision of senior scientists/researchers, as compared to Science Shops organised as NGOs, where members provide the research /mediation needed in projects.
- Through formal or informal contacts, the knowledge exchange and access to co-operation projects within universities are easily approached by university-.based Science Shops.
- A financial support is minimally ensured by universities (either on a project base or by assuring the publicity for the projects or by different costs provided for administration), a fact which can be limiting for co-operation.

As far as results of this study are concerned, there are no major limitations towards transnational research co-operation imposed by partners due to their institutional specificity/form of organisation.

## **2. Types of existent co-operation relations**

The co-operation relations identified in this study are based on the views and experiences of 12 NGOs, 11 researchers from universities or research institutions, 11 governmental institutions and 11 Science Shops/transfer organisations.

All the interviewed representatives in this study have diverse co-operation activities with a multitude of other organisations/institutions like governmental bodies, NGO's, Science Shops and scientists. Most of the representatives have international experiences, as well as being partners in diverse international projects. The identified co-operation or network relations are:

**NGO - NGO relations:**

- This is the most frequent type of co-operation relationship for the NGOs represented in this study.
- The co-operation is both on national and international level.
- The NGOs are part of two types of networks: 1) Big national organisations themselves represent a network; similar with these, is the case of the national branches of international environmental organisations, 2) The other type of network is the one in which NGO's are participants in a network, which usually is driven by a specific environmental issue.

**NGO - Science Shops relations:**

- This is the most common type of co-operation seen from the perspectives of the Science Shops.
- According to the experiences of the Science Shop DTU, co-operation and networking with civil society groups can take form either as 1) a long-term co-operation or as 2) a short-term co-operation relationship.

**NGO - Scientists' relations**

- This relationship is not commonly seen among the NGOs represented in this study; however some of the NGOs do have co-operation or network relations with universities or scientists.
- Seen from the scientists' perspective the study reveals that all the scientists have contacts and co-operation with representatives of civil society.

**NGO – Governmental Institutions relations**

- Co-operation relations are seen among most of the NGOs represented in this study and among all the governmental institutions represented in this study.
- The represented NGOs and governmental institutions do however not take part in any network relations including representatives from the other actor groups.

### **Scientists – Scientists**

- The most frequent type co-operation and networking relations among the represented scientists are of the type scientist – scientist. All scientists have co-operation or are members of formal/informal network with other scientists at both national and international level.

### **Scientists – Governmental Institutions relations**

- Co-operation between scientists and governmental institutions is not a common relation seen from the perspectives of the scientists.
- Seen from the perspective of the represented governmental institutions half of the institutions have co-operation with scientists on regular basis.

### **Science Shop – Science Shop**

- The Science Shops represented in the research are all part of different kind of formal and informal co-operation and networking relationships of both national and international character.

### **Science Shop – Scientists co-operation and networking relations**

- The co-operation between Science Shops and scientists can be described as three different relations: 1) A scientist is supervisor on a Science Shop project, 2) The Science Shop acts as incubator for new research areas at the university, and 3) Science Shop co-operates with scientists and students from abroad (international co-operation).

### **Science Shops – Governmental Institutions relations**

- This type of co-operation relations is not frequently seen.

### **Science Shops – NGO – Scientist – Government Institution relations**

- Science Shops takes part in formal and informal networks consisting of all the actor groups represented in this research.

### **Governmental institutions – Governmental Institutions relations**

- The most frequent co-operation relation among the governmental institutions is of the type governmental institution – governmental institution.

### **3. Tools to enhance transnational research co-operation**

The most important tools to facilitate transnational research co-operation specifically approached by the WP4 group have been described in the final report in Chapter 3.4. and are represented by:

- ***Website and discussion lists***
- ***Living Knowledge magazine and LK newsletter***
- ***Dissemination events and publications***
- ***Linkage with other networks and projects***

The **WP4 website and discussion groups** have been created and hosted in the ISSNET project (*Living Knowledge*) website and is accessible at: [http://www.scienceshops.org/WP4\\_web/wp4\\_main.htm](http://www.scienceshops.org/WP4_web/wp4_main.htm). This site has sections containing information related about:

- Different stages and activities of the WP4 project and their status.
- Partners/institutions/contacts.
- The pilot project *Sustainable water management and land use*, publications (reports, articles, bibliographic information).
- A discussion forum intended for debates.

Through the general ISSNET project website, access to the Living Knowledge database was provided (the LK database is searchable on key words so as to provide access to topics of science shop co-operation, reports, useful links, etc.).

The **Living Knowledge magazine and newsletter**, provided on a regular basis to the network members (based on free subscription) represented a very useful tool to provide information on the WP4 project activities, short articles, workshops or seminars organized by the WP4 and ISSNET members, new

calls for proposals, the 2<sup>nd</sup> Living Knowledge conference organized in Seville, Spain, 2005.

**Dissemination events and publications** were considered as an efficient tool for the exchange of information, communication and linkage with other networks, all partners in WP4 being very much involved in the organisation of such events. The list of publications- **29** in total (abstracts, reports, articles in the LK magazine and peer reviewed journals, presentations and posters in conferences and workshops, translations) are presented in the report and WP4 website. The major dissemination events in relation to the WP4 activities are listed below:

- The FBI-Centre in Austria organised a network meeting on sustainable water management so as to disseminate the results of WP4 activities and to explore the interest for trans-national research co-operation;
- A WP4 session at the 2<sup>nd</sup> Living Knowledge Conference in Seville, Spain, was held with the aim of: 1) disseminating WP4 research activities and findings, especially related to environmental topics and the WP4 pilot project, 2) presenting papers submitted to the LK conference within the environmental field, and 3) discussing opportunities to enhance research co-operation at transnational level developed on themes requested by community groups;
- A session at the 2<sup>nd</sup> Living Knowledge Conference in Seville, Spain focussed on sustainable agriculture and forestry, with the aim to improve exchanges on learning and networking experience, participatory methods used, activities and potential in rural areas;
- A Symposium in Berlin on Water: “Trading good – weapon – human right” was held with the aim of discussing ways towards sustainable water management with the broader public.

It can be observed that dissemination at the level of publications and events was very good; however this was not necessarily accompanied by an effective participation in the WP4 forum discussions.

### **Linkage with other networks and projects**

The 6<sup>th</sup> EU Framework Programme (FP6) with its new research concepts for the Integrated Projects (IP) and Networks of Excellence (NoE) due to the interaction with policy makers and the general public that have to be developed through the project activities could represent a very good opportunity for both Science Shop inclusion and also a good opportunity for transnational co-operation on research topics of interest for communities. The international network of Science Shops, Living Knowledge, is co-operating with one of NoE's, ACCENT (Atmospheric Composition Change Network of Excellence). A research co-operation between an EU Research Network, ACCENT, NGOs and Science Shops has been initiated based on a request from the co-ordinator of the ACCENT work package on "Integration scientific activities with policy-making and public awareness". The Science Shop DTU has become member of the Steering Group of this work package and since ACCENT deals with air pollution, this type of co-operation seems to be obvious (since environmental topics, including air pollution, are of concern for many civil society organisations, universities and Science Shops). It might be more critical and difficult for the Science Shops and NGO's to develop co-operation with IP's and NoE's not working with environmental issues, such as the so-called high technology, which might not have the support of NGO's.

#### **4. Networks and transnational research co-operation**

Even though all the actors represented in the pilot projects on sustainable water management and land use, are parts of different co-operations and network activities, they do have a need and wish for more networking, especially network and co-operation between NGOs, Science Shops and scientists was mentioned.

#### **NGO - Science Shops**

- Most of the interviewed NGO representatives have stated that there is a clear need for the improvement of the NGO – Science Shops co-operation and networking.

### **NGO - Science Shops- Scientists – Governmental Institutions**

- The represented NGOs have also mentioned that NGOs feel need for co-operation and networking with scientists.
- Seen from the perspective of the scientists, the need for more co-operation and network with NGOs and Science Shops differs a lot. Some of them do not feel a need for more co-operation and network, while others feel there is a great need for improving existent networks and for setting up new ones that include both NGOs, Science Shops, scientists and governmental institutions.

### **NGO - NGO**

- Also NGO-NGO co-operation and/or network were mentioned as a need for the NGOs.

### **Science Shop - Scientists - Governmental Institutions**

- The representatives have also pointed towards a need for co-operation and/or network between Science Shops – scientists and governmental institutions.

## **5. Research themes**

Research themes, which can be the subject of knowledge production and exchange or developed into future co-operation programmes, based on the representatives in this study, are as follows. The research themes were identified as part of the pilot project of sustainable water management and land use:

### **Environmental Themes within the areas of Sustainable Water Management and Land Use**

- Pollution of lakes, streams, rivers and oceans
- Groundwater pollution
- Environmental education/ awareness programs
- Wastewater
- Soil pollution
- Rural development

- Urban planning
- Nature Protection
- Environmental aspects in general

**Environmental Themes outside the area of Sustainable Water Management and Land Use**

- Urban planning
- Air pollution
- Waste management
- Integrated prevention and control of pollution
- Dioxin leakage from incinerators
- Nuclear power
- Transport
- Energy and climate
- GMO
- Environmental conditions in communities
- Cleaner production
- Environmental impact of human activities
- Common international Science Shop database
- Comparative studies of Science Shop projects
- The relationship between health and environment

The research themes are more elaborated in regards to co-operation needs and resources for co-operation (e.g. stakeholders, institutions, and organisations working within the field) in table 3.15.

**6. Previous and actual experiences with trans-national research co-operation**

Four experiences with transnational research co-operation among Science Shops have been analysed with the aim of investigating which kind of support and benefit they perceived as important for future transnational research co-operation. **The four co-operations** analysed are:

- Co-operation between Science Shop for Biology, Utrecht University and Queens University Belfast Science Shop. The project was titled: *“The Impact of Stroke on lay carers”*.
- EU project Zer0-M
- Co-operation between Romanian and Dutch Science Shops. The project was titled: *“EMS in Factories: The Introduction of Environmental Management Systems in the Metal Processing and Ceramic Industry in Romania and the Netherlands”*.
- Co-operation between the UK-USA-Spain departments dealing with community based research. The project was titled: *“A Curricular Framework for International Innovation: Sustainable and Equitable Community Reinvestment”*.

The **benefits of the co-operation** were mentioned by the participants in the four studies to be:

- It was useful, challenging and broaden their perspective in relation to future international co-operation between Science Shops and students.
- New potentials of international mediated student co-operation would benefit both the students and the Science Shops position in education.
- The NGO got an international perspective on the problem investigated, which participated to broaden the perspectives of the problem.
- New knowledge was developed.
- New courses and case studies were initiated based on the project experiences.
- Very useful for the students in relation to their future career.
- Curricular development.

The participants however also revealed **some problems and barriers experienced** which future transnational co-operation needs to address or reflect upon:

- Requirements and formal procedures to students and the universities.
- Cultural differences.

The interviewees were asked which **support they would desire from Science Shops** in order to improve transnational co-operation, and their views were:

- Search for national/international project partners.
- Access to existent co-operation projects or networks.
- Develop in common project proposals on themes requested by community groups.
- Exchange information/good operational practices.
- Linking topics in one country to another country.
- Perceived local problems may be problems experienced in other communities and solutions could be sought together – making clear that local problems may not be as local as perceived.
- To bring NGOs together and make them aware that they face the same problems just in different contexts.
- Dissemination of existent knowledge at national and international level.
- Develop in common educational or training programs.

#### **7. National and international frameworks that could provide barriers or support for transnational research co-operation**

To supplement the suggestions to topics and themes for future transnational co-operation, identified through the interviews conducted as part of the pilot project, an Internet research on EU-programs, funding lines and existing international co-operations and projects was conducted. The results are considering both the 6<sup>th</sup> and the 7<sup>th</sup> Frameworks programs and the main conclusions are:

**Support of transnational research co-operation through EC programs** is quite limited in terms of both accessibility of Science Shops to Calls in specific areas (for instance, out of the total number of projects conducted in the FP6 framework, the *Science and Society* holds 5% of all projects, as compared to *Marie Curie Actions* that holds 84 % of all projects) and also due to the lack of instruments that would allow participation of partnerships of NGOs, Science Shops and universities in research proposals (as in the case of the *Canadian*

*Community-University Research Alliances (CURA)* and the *Community Alliances for Health Research- CAHR*, programs specifically created to support partnerships between university-based researchers and community-based organisations). The possibilities to apply for programs in specific Calls such as *Sustainable development, global change and ecosystems, Information society technologies, Food quality and safety, etc.*, through the Networks of Excellence projects or Integrated projects, raises the issue of participation of Science Shops more related to dissemination of project activities and less in the actual research. However, recently (November 2005), a specific Call was launched by EC, within the *Science and Society*, 6<sup>th</sup> framework programme: *Science Shops: research for the local civil society*, the deadline for this Call being March 30, 2006.

The rather limited possibilities for Science Shops to apply for projects within the 6<sup>th</sup> framework programme, raises the question where else Science Shops could apply. There might be opportunities for Science Shops to establish themselves outside the domain of “Science and Society”, where they carry out projects on knowledge transfer and the work of the Science Shops themselves. Thus, programmes such as EQUAL, GRUNDTVIG, LEADER+ or LIFE could be suitable for Science Shops, however they are not explicitly mentioned as separate entities that might candidate. It is therefore strongly recommended to involve Science Shops with their specific know-how in such projects.

The 7<sup>th</sup> Framework Programme, at least in its proposed form, takes up the themes of the 6<sup>th</sup> Framework Programme (FP6) and reorganises them. The terminology is broader than that for FP6 and could maybe present more opportunities for project proposals with Science Shops participation and international co-operation. However, the new element related to the development of “*regions of knowledge*” (bringing together research partners – such as universities, research centres, enterprises and regional authorities) does not mention at all civil society organisations as partners.

**Mobility and support mechanisms**

Mobility actions are strongly encouraged through the Marie Curie and bilateral university programs (such as Socrates, Leonardo da Vinci) and usually research topics are strongly connected with university research main programs (fundamental or applied research). The research mobilities in response to civil society requests can be accommodated through these programs only if both university partners consider this type of co-operation useful (as it was the case for the student exchange of a student from the Technical University of Iasi to the Danish Technical University presented in this report). The facilitation of such options (exchange mobilities, internships in civil society organisations), in universities where Science Shops exist can contribute to the development of more co-operation research initiatives at transnational level, which will include community groups and themes that are of interest for all partners.

It is recommended that the Science Shops look through the various programmes and programme lines of the EU and search for new “docking stations” for their integrative, cross-discipline and practice-orientated work and to position themselves as competent partners on the project market. Their commitment would strengthen an area that is concerned with bringing together research and technological development with those who apply the results and are affected by them, where acceptance and progress get equal weighting with the development of the social environment, awareness of each other and with shaping a future worth living in for as many people as possible.



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You can contact the International Science Shop Network and its members by sending an email to the International Science Shop Contact Point.

**International Science Shop Contact Point**  
Padulaan 8, 3584 CH Utrecht, the Netherlands  
Tel: +31 30 253 73 63, fax: +31 30 253 57 95,  
email: [isso@bio.uu.nl](mailto:isso@bio.uu.nl), [www.livingknowledge.org](http://www.livingknowledge.org)

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