



Improving Interaction between NGOs,  
Universities, and Science Shops:  
Experiences and Expectations

# Democratic Governance through Interaction between NGOs, Universities and Science Shops:

## Experiences, Expectations, Recommendations

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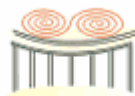
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Final Report of INTERACTS:

Appendix Report

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## **Appendix 1: Aim of Work package 2**

Work package 2 aims at coordinating the research methodology to ensure that the partners use a common methodology in the national case studies about experience with interaction between NGOs and universities and the impact of this co-operation on empowerment of NGOs and on research and curricula at universities. Furthermore also in national workshops with group discussions about expectations for future co-operation between NGOs, research institutions and intermediaries like science shops. The tasks in this work package comprise setting up and adopting among the partners a common methodology for the interviews in the national case studies, for the assessment of impact and for the group discussions about expectations for future co-operation and policy initiatives, which can support this kind of co-operation. The deliverable is a case study methodology for analysing co-operation between NGOs and the research system and the impact on societal and scientific discourses an on research and curricula.

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## Appendix 2: Interview Schedule for Case Studies

### Level 1 Interview Guide

Q	NGO key respondent	Researcher / Supervisor	Science Shop
<b>BACKGROUND</b>			
1	Briefly describe your organisation	Briefly describe the programme of study and institution (student or supervisor) Briefly describe your organisation (research worker)	Briefly describe your organisation
2	Is there any written information on your organisation you can let me have?	Do you know where I could find written information on your course of study?	Is there any written information on your organisation you can let me have?
3	Describe your own role in the organisation	(student / researcher) Describe how the research fitted in to your degree / role at the institution (supervisor) Describe your own role as supervisor for the research	Describe your own role in the organisation
<b>PROJECT DESCRIPTION</b>			
4	How would you (briefly) describe the research project?	How would you (briefly) describe the research project?	How would you (briefly) describe the research project?
5	What was/were the main research question(s)?	What was/were the main research question(s)?	What was/were the main research question(s)?
6	Did you have an input into the research methods used? If so, what input?	What was your input into the research methods used?	Did you have an input into the research methods used? If so, what input?
7	What were the main findings?	What were the main findings?	What were the main findings?
8	What were the main recommendations?	What were the main recommendations?	What were the main recommendations?
<b>ORGANISATION OF THE PROJECT</b>			
9	Who initiated the project?	Who initiated the project?	Who initiated the project?
10	Did the project build on previous activities of your organisation? (Why did the project need to be done?)	Did the project build on previous activities of your organisation? (Why did the project need to be done?)	Did the project build on previous activities of your organisation? (Why did the project need to be done?)
11	How was the project planned or negotiated?	How was the project planned or negotiated?	How was the project planned or negotiated?
12	What are the main features you remember of the negotiations / planning? (Was it difficult to reach agreement?)	What are the main features you remember of the negotiations / planning? (Was it difficult to reach agreement?)	What are the main features you remember of the negotiations / planning? (Was it difficult to reach agreement?)
13	What time-frame did you agree on? (Any intermediate milestones?)	What time-frame did you agree on? (Any intermediate milestones?)	What time-frame did you agree on? (Any intermediate milestones?)
14	What was the budget of the project?	What was the budget of the project?	What was the budget of the project?

	(Who was finally responsible for the funding?)	(Who was finally responsible for the funding?)	(Who was finally responsible for the funding?)
15	What channels of communication were used? (meetings / phone / email)	What channels of communication were used? (meetings / phone / email)	What channels of communication were used? (meetings / phone / email)
16	How regular was the communication? (How easy or difficult was the communication?)	How regular was the communication? (How easy or difficult was the communication?)	How regular was the communication? (How easy or difficult was the communication?)
17	Was the project to be open-ended and exploratory, or structured and focused? (How did it turn out?)	Was the project to be open-ended and exploratory, or structured and focused? (How did it turn out?)	Was the project to be open-ended and exploratory, or structured and focused? (How did it turn out?)
18	What were your specific interests and expectations for the project?	What were your specific interests and expectations for the project?	What were your specific interests and expectations for the project?
19	How did the knowledge and experience of the different participants contribute to the project? (NGO members / public, student / researcher, supervisor, Science Shop)	How did the knowledge and experience of the different participants contribute to the project? (NGO members / public, student / researcher, supervisor, Science Shop)	How did the knowledge and experience of the different participants contribute to the project? (NGO members / public, student / researcher, supervisor, Science Shop)
<b>PROJECT OUTCOMES</b>			
20	To what extent did the research actually fulfil the original objectives set by your organisation?	To what extent did the research actually fulfil the original objectives set by your organisation?	To what extent did the research actually fulfil the original objectives set by your organisation?
21	Were there any questions that did not get answered by the research?	Were there any questions that did not get answered by the research?	Were there any questions that did not get answered by the research?
22	How did the results get presented? (reports / oral presentations / press etc.) Who now has access to the results?	How did the results get presented? (reports / oral presentations / press etc.) Who now has access to the results?	How did the results get presented? (reports / oral presentations / press etc.) Who now has access to the results?
23	Are the findings available to the public? (Do you know where I can get hold of a copy / publication details?)	Are the findings available to the public? (Do you know where I can get hold of a copy / publication details?)	Are the findings available to the public? (Do you know where I can get hold of a copy / publication details?)
24	Have you used, or will you be using, the research? (specify, internal to the organisation, external, direct, indirect) e.g. improve service provision, as evidence of outcomes for own funding, raise awareness generally, answer specific questions, put pressure on other agencies	Have you used, or will you be using, the research? e.g. career, publication, degree, curriculum development	Have you used, or will you be using, the research? (specify, internal to the organisation, external, direct, indirect) e.g. promote science shop, raise public awareness of an issue, get other projects, as evidence of outcomes for own funding
25	How successful has this use been?	How successful has this use been?	How successful has this use been?
26	What accounted for the success? (What hindered you	What accounted for the success? (What hindered you achieving	What accounted for the success? (What hindered you achieving

	achieving success?)	success?)	success?)
<b>POLICY</b>			
27	Has there been any long term benefit from the project for your organisation? (How was this long term benefit achieved?)	Has there been any long term benefit from the project for your career / research interests? (How was this long term benefit achieved?)	Has there been any long term benefit from the project for your organisation / research interests? (How was this long term benefit achieved?)
28	How does the project relate to the wider objectives of your organisation?	How does the project relate to the wider objectives of your organisation?	How does the project relate to the wider objectives of your organisation?
29	Has this project led to further projects with Science Shops or related agencies?	(supervisor / research worker) Has this project led to further projects with the same or similar organisations?	Has this project led to further projects with the same or similar organisations?
30	What are the advantages and disadvantages of having someone from outside the organisation investigating the issue you have raised?	What are the advantages and disadvantages of having someone from outside the organisation investigating the issue you have raised?	What are the advantages and disadvantages of having someone from outside the organisation investigating the issue you have raised?
31	What, if anything, was the added value from cooperation with a science shop / intermediary agency rather than directly with a university or research organisation?	What, if anything, was the added value from cooperation with a science shop / intermediary agency rather than directly with a university or research organisation?	What, if anything, was the added value from cooperation with a science shop / intermediary agency rather than directly with a university or research organisation?
<b>SUMMARY</b>			
32	Can you summarise the most positive aspects of the project	Can you summarise the most positive aspects of the project	Can you summarise the most positive aspects of the project
33	Can you detail any problems or barriers which were encountered (e.g. conflicts, uncertainties, relationships)	Can you detail any problems or barriers which were encountered (e.g. conflicts, uncertainties, relationships)	Can you detail any problems or barriers which were encountered (e.g. conflicts, uncertainties, relationships)
34	(If problem mentioned) How did you deal with the problem?	(If problem mentioned) How did you deal with the problem?	(If problem mentioned) How did you deal with the problem?
35	If you could do it again, would you do the project the same way or differently?	If you could do it again, would you do the project the same way or differently?	If you could do it again, would you do the project the same way or differently?
36	What do you see as the advantages or disadvantages of (social) scientific research being applied to tackle issues in the community?	What do you see as the advantages or disadvantages of (social) scientific research being applied to tackle issues in the community?	What do you see as the advantages or disadvantages of (social) scientific research being applied to tackle issues in the community?
<b><i>Thank you very much for your cooperation.</i></b>			

## Level 2 Interview Guide

Q	NGO (consortium) Manager	University Dean of Research/Teaching	Science Shop Manager
<b>BACKGROUND</b>			
1	Please describe your own role in the organisation	Please describe your own role in the organisation	Please describe your own role in the organisation
2	How much collaborative research with Science Shops goes on in your organisation / consortium?	How much collaborative research with local NGOs goes on with Science Shops in your university?	How much collaborative research with local NGOs goes on in your university / city with Science Shops?
3	And how much collaborative research with universities not involving Science Shops?	And how much collaborative research with NGOs not involving Science Shops?	And how much collaborative research with NGOs not involving Science Shops?
4	Can you give me an example of Science Shop research?	Can you give me an example of Science Shop research?	Can you give me an example of Science Shop research?
5	Can you give me an example that did not involve a Science Shop?	Can you give me an example that did not involve a Science Shop?	Can you give me an example that did not involve a Science Shop?
6	What comparisons would you draw between Science Shop and non-Science Shop research?	What comparisons would you draw between Science Shop and non-Science Shop research?	What comparisons would you draw between Science Shop and non-Science Shop research?
7	Have you heard of the (case study project)? If so, what do you think of it? (positive outcomes? problems or negative outcomes?)	Have you heard of the (case study project)? If so, what do you think of it? (positive outcomes? problems or negative outcomes?)	Have you heard of the (case study project)? If so, what do you think of it? (positive outcomes? problems or negative outcomes?)
<b>SCIENCE SHOPS</b>			
8	How much do you know about Science Shops, here and in other countries?	How much do you know about Science Shops, here and in other countries?	How much do you know about Science Shops, here and in other countries?
9	What do you see as the most important features of Science Shop research?	What do you see as the most important features of Science Shop research?	What do you see as the most important features of Science Shop research?
10	Are there any negative features for you of Science Shop research?	Are there any negative features for you of Science Shop research?	Are there any negative features for you of Science Shop research?
<b>SCIENCE SHOPS EVALUATION</b>			
11	How important is Science Shop activity / community based research for your organisation?	How important is Science Shop activity / community based research for your university?	How important is Science Shop activity / community based research for your university / city?
12	How important is Science Shop activity / community based research for improving the public understanding of scientific knowledge (including social science)?	How important is Science Shop activity / community based research for improving the public understanding of scientific knowledge (including social science)?	How important is Science Shop activity / community based research for improving the public understanding of scientific knowledge (including social science)?
13	What other mediation procedures do you think are important for improving the public understanding of scientific knowledge?	What other mediation procedures do you think are important for improving the public understanding of scientific knowledge?	What other mediation procedures do you think are important for improving the public understanding of scientific knowledge?

14	How important is Science Shop activity / community based research for the development of national science policy (including social science policy)?	How important is Science Shop activity / community based research for the development of national science policy (including social science policy)?	How important is Science Shop activity / community based research for the development of national science policy (including social science policy)?
15	What other mediation procedures do you think are important for allowing public input into the development of national science policy?	What other mediation procedures do you think are important for allowing public input into the development of national science policy?	What other mediation procedures do you think are important for allowing public input into the development of national science policy?
16	How important is Science Shop activity / community based research for building capacity in civil society / empowering NGOs?	How important is Science Shop activity / community based research for the building of capacity in / empowering NGOs?	How important is Science Shop activity / community based research for the building of capacity in / empowering NGOs?
17	What other mediation procedures do you think are important for building capacity in civil society / empowering NGOs?	What other mediation procedures do you think are important for building capacity in civil society / empowering NGOs?	What other mediation procedures do you think are important for building capacity in civil society / empowering NGOs?
18	How important is Science Shop activity / community based research for developing relations between universities and the community?	How important is Science Shop activity / community based research for developing relations between universities and the community?	How important is Science Shop activity / community based research for developing relations between universities and the community?
19	What other mediation procedures do you think are important for developing relations between universities and the community?	What other mediation procedures do you think are important for developing relations between universities and the community?	What other mediation procedures do you think are important for developing relations between universities and the community?
<b>FUTURE OF SCIENCE SHOPS</b>			
20	Should Science Shop work be developed further? How do you think this work could be developed?	Should Science Shop work be developed further? How do you think this work could be developed?	Should Science Shop work be developed further? How do you think this work could be developed?
21	What are the problems or barriers to its development? (specify: in NGOs, universities, science shops, financial, administrative, political etc.)	What are the problems or barriers to its development? (specify: in NGOs, universities, science shops, financial, administrative, political etc.)	What are the problems or barriers to its development? (specify: in NGOs, universities, science shops, financial, administrative, political etc.)
22	What changes would be necessary to encourage more organisations to take part in Science Shop activity / community based research?	What changes would be necessary to encourage more universities to take part in Science Shop activity / community based research?	What changes would be necessary to encourage more NGOs and universities to take part in Science Shop activity / community based research?
23	How do you see Science Shop activity / community based research relating to Research and Technology policy in this country? And in Europe as a whole?	How do you see Science Shop activity / community based research relating to Research and Technology policy in this country? And in Europe as a whole?	How do you see Science Shop activity / community based research relating to Research and Technology policy in this country? And in Europe as a whole?



24	Do you have any other suggestions about how the concerns of civil society could be reflected in Research and Technology policy?	Do you have any other suggestions about how the concerns of civil society could be reflected in Research and Technology policy?	Do you have any other suggestions about how the concerns of civil society could be reflected in Research and Technology policy?
25	Do you think Science Shop activity is relevant to any other current policies affecting the NGO sector?	Do you think Science Shop activity is relevant to any other current policies affecting universities?	Do you think Science Shop activity is relevant to any other current policies affecting the NGO sector or universities?
<b>FINALE</b>			
26	Would you like to be kept informed about the INTERACTS project as it develops, and to be involved further in any way?	Would you like to be kept informed about the INTERACTS project as it develops, and to be involved further in any way?	Would you like to be kept informed about the INTERACTS project as it develops, and to be involved further in any way?
<b><i>Thank you very much for your cooperation.</i></b>			

## **Appendix 3: Standardised Introduction for the Case Study Interviews**

Good morning / (afternoon) / (evening).  
Thank you for agreeing to be interviewed.

This study is part of a European research project, which is investigating the experiences and expectations of NGOs in relation to Universities and Science Shops. This interview will be part of a case study on the (name of ) project you were involved with recently.

The wider context of our study is a concern with making science and scientific expertise more accountable to the public, and with increasing the public understanding and awareness of science and technology.

I would like to tape-record this interview to enable a full transcript to be made. Do you agree to this being done? If you like, I can send you a copy of the transcript when it is completed.

All individuals interviewed will not be identified in the final report. The identity of the NGOs will also be anonymous, unless you agree to your organisation being named in the report. What is your preference?

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### **Case Study Interview Checklist:**

Date:

Interviewer:

Interviewee:

Case Study Identity Number:

Place:

Time Start:

Time Finish:

Permission to record:

Tape Identity Number:

Transcript required:

Permission to identify organisation:

## **Appendix 4: National Summary: Austria (Innsbruck)**

### **4.1. National Context**

#### ***4.1.1. Discourse: science and society***

Today's clamour for public access to science has its historic roots not only in the students movement of 1968, but also in the rise of the "Volkshochschulen" (adult education centres) at the end of the 19<sup>th</sup> century with their central goal of teaching structured and self-organised learning – and not to qualify laymen for a career as a scientist. This concept is based on the idea that lay knowledge has a valid claim to exist in its own right, an idea, which is still shared by the Science Shops today: everybody is an expert of their own situation and should be taken seriously. The interaction between science and society is thought of as a two-way communication. An example for this is the programme "Kulturlandschaftsforschung" (since 1995) with its research approach of integrating public discourse into the science project and interacting with the important actors of the region. Another recent but more critical approach to interaction is the "Science Week Austria" which in 2001 was considered more of a science exhibition rather than an attempt at communicating science in a mutual exchange between science findings and public needs and interests.

#### ***4.1.2. Funding regulation and networking***

Between 1992 and 1995, Austrian Science Shops, as pilot projects, were funded by the Austrian Ministry of Science. Since then no further basic funding has been granted. Science Shops that follow the first organisational model (attached to a university) receive public funding (from ministries, regional governments, and local governments) and additional funding from universities. The second type of shops (non-university-based, independent) lives on (publicly and privately) funded projects. Apart from informal contacts there is no organised network of the four Science Shops in Austria.

#### ***4.1.3. The NGO society as potential clients***

Although the Austrian non-profit sector is strong and plays a dominant role in the political system, non-governmental organisations play an increasing but still not dominant role in the Austrian society. The non-profit sector is characterised by an enormous heterogeneity with respect to size, organisational form, political and social embeddedness and financial strength. Moreover there are significant differences between the regions.

The non-profit sector (including the community of NGOs) is financed by public subsidies, donations, charges for expenses, membership fees, sponsoring, endowments and loans. Although expected to take on tasks no longer or still carried out by the regional governments, many non-governmental and other non-profit organisations have not had their public sector subsidies increased for years. In recent years, one can even observe a deterioration in the financial situation of many NGOs. The ongoing changes of the Austrian political system are regarded by some opinion-leaders as potentially beneficial for civil society because of the decreasing governmental control over society.

At the moment, the political and economical parameters are presenting the NGO's with a rather difficult situation. A lot of resources in terms of time and manpower have to be invested just to guarantee the continued operation of the respective organisation.

#### ***4.1.4. Institutional and legal framework***

There is no legislation explicitly regulating the work of Science Shops. The university-affiliated Science Shops are affected mainly by the legal and political framework regulating university tasks and university studies. The other Science Shops are affected by directives and rules regulating their possible organisational form as well as research funding and grants.

#### ***4.1.5. Political trends***

The university reform effected by the *Universitätsorganisationsgesetz* and new studies schemes (introducing the bachelors degree, matching curricula more closely to the demands of employers and attempts to shorten the average duration of studies) could bring important changes for Science Shops working with graduate students. Negative effects might be that students will not have time to participate in long-term projects, so projects will have to be split up, which requires more co-ordination from the Science Shop. But the new law may also hold out opportunities for Science Shops. It forces universities to develop curricula that take into consideration social and economic needs.

The general political programme of the ÖVP-FPÖ government makes little reference to knowledge transfer, participation or the role of research in society. The focus is on economic competitiveness and communication is considered especially important between "research and the economy, especially universities and the world of business". Some research fields have been classified as priorities (*Forschungsschwerpunkte*) but they may be considered as rather low-scale (e.g. *Kulturlandschaftsforschung*, *Ecological future studies*, *Public understanding of science*).

On a national level, the Green Party could prove an important ally. Its Core Programme includes the demand that universities “put their problem-solving capacities at society’s disposal, in a dialogue with the citizens”. Science Shops are not explicitly mentioned, but some Green policymakers are familiar with them. In general, Science Shops in Austria receive some recognition within the universities, from individual policy-makers and certain ministerial departments. But they are still not actively supported by the policy-makers to any significant degree and they are not yet known well enough to the general public.

#### ***4.1.6. Overview of Science Shops in the country/region***

The FBI Centre in Innsbruck, a non-university-based Science Shop; the Wissenschaftsagentur Salzburg, a university-based Science Shop; the Science Shop Vienna, a non-university-based Science Shop; the Science Shop Graz, which entertains close relations to the university. All Austrian Science Shops are organised in the form of a registered association (non-profit organisation with the advantage of being exempt from value added tax).

## **4.2. Case Studies**

### ***4.2.1. Criteria for Case Selection***

The choice of cases was based on the following criteria:

1. The common criteria, which were agreed upon by the INTERACTS project team and are fully described by Irene and David Hall in the generic introduction. The cases should be complete, recent and generally have an impact.
2. The cases should be initiated by small to medium-size NGOs.
3. With regard to the areas of expertise in the FBI Centre, the cases should be situated in the realms of social welfare and health.
4. In addition, the Austrian partners (the FBI Centre and the Science Shop Vienna) decided to select cases from all Austrian Science Shops and from a similar organisation (PINN). Only one single case constituted a project conducted by each of the Austrian partners. For practical considerations (geographical distance...) the FBI Institute decided to select one case conducted by Wissenschaftsagentur Salzburg and one conducted by PINN (Science Shop equivalent in Innsbruck).

#### **4.2.2. Case 1: Analysis on customer satisfaction of the aggrieved with respect to mediation in penal matters**

This project evaluates the customers satisfaction with a service called “mediation in penal matters” provided by the NGO.

The NGO (ATA) approached PINN (the Science Shop equivalent) because they felt that a focus on client satisfaction would be a timely requirement not only for businesses but also for NGOs working in the social field. It was this positive argument rather than inherent problems, which led to the formulation of the project. The evaluation was conducted by two final year undergraduate students. The main research questions covered the organizational boundary conditions, the behaviour and attitude of the staff (kindness, sensitivity, competence...), the process itself and the assessment of the results, all aimed at improving the service offered.

In general, the customer satisfaction was very high and the customers appreciated the service offered by the NGO. The findings of the evaluation point to aspects where improvements could be made, such as (i) the sensitivity and competence of staff members, and (ii) helping the victims of a crime / of an offence to gain an understanding and appreciation of the fact that the suspect had taken on the responsibility for his “crime”.

This project can be considered a rather typical PINN project, with students carrying out the project in the context of a Masters thesis. What is a-typical for this PINN project - but becoming increasingly more common - is the fact that the client organisation is an NGO. Key issues emerging in case 1 interviews are, for example, the general visibility of the work done by a Science Shop, the position of the Science Shop office (outside or within the university), the Science Shop as a mentoring platform, and the task of translating a request into a scientific language (the transformation of a social need - the request - into a scientific question).

##### *4.2.2.1. Fact Sheet*

National title of the report: „Kundenzufriedenheitsanalyse der Geschädigten im Außergerichtlichen Tatausgleich“

English title of the report: „Analysis on Customer Satisfaction of the Aggrieved in Mediation in Penal Matters“

Request: The request was made by the NGO (ATA) to PINN.

Aim: To investigate if the customers (the aggrieved) are satisfied with a service called “mediation in penal matters” provided by the NGO (Association for probation services and social work) and what kind of improvements should be made if necessary.

Duration: October 2000 until May 2001

Students: 2 final year undergraduate students, Faculty of Social and Economic Sciences

Costs: The project budget was 15.000 ATS (1090 Euro).

The NGO (ATA) was responsible for financing the project. In addition, the NGO provided some support such as working space for the students and free use of copying and printing facilities.

Outcomes (Publications, Deliverables and Dissemination Activities):

- Masters thesis: “Kundenzufriedenheitsanalyse der Geschädigten im Außergerichtlichen Tatausgleich“
- Primary? publication in SUB, a professional journal: “Außergerichtlicher Tatausgleich – Kundenzufriedenheitsanalyse der Geschädigten“
- Review in TOA Infodienst, a professional journal: “Zufriedene Geschädigte im Außergerichtlichen Tatausgleich“
- Article in Salzburger Nachrichten, a regional daily newspaper

Working Methodology: The methods applied for this project were a survey via questionnaire, semi-structured interviews and a moderated group discussion.

Conducted Interviews:

Level 1<sup>1</sup>: 1 student, 1 NGO representative, 1 PINN representative

Level 2<sup>2</sup>: Academic supervisor, head of the Department of Organisation - University of Innsbruck

#### ***4.2.3. Case 2: Children and young people in Lungau: between participation and apathy***

This project investigates quality of life and living environment for young people in Lungau (a remote rural region of Salzburg province) and aims to find out their needs and desires.

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<sup>1</sup> Actors directly involved in the project

<sup>2</sup> Actors having a view on the policy implications of the activity

This study was to provide a well grounded scientific basis for the stimulation of youth work, for the establishment of a youth centre and a youth info point and furthermore for initiating youth projects in the region of Lungau. The study was conducted by one final year undergraduate student in the context of a Masters thesis.

The main research questions focused on leisure behaviour and leisure amenities, labour supply, labour market and working conditions, the effects of tourism, participation in a political context and standards and moral concepts (for example on drugs, dreams/hopes and fears...). The results and key findings provide answers for all the main questions. As intended, a sound scientific basis was generated for continuing youth work in the region and helping to develop a customised package of measures as well as providing opportunities for the young people.

This project can be considered as a rather typical Wissenschaftsagentur Salzburg project, involving students carrying out the project.

Key issues for this project, as evident from the case 2 interviews, are applicability of the research, practical relevance of the topic and easy access to scientific results via a Science Shop.

#### *4.2.3.1. Fact Sheet*

National Title of the Report: "Kinder und Jugendliche im Lungau. Zwischen Partizipation und Apathie"

English Title of the Report: „Children and Young People in Lungau. Between Participation and Apathy”

Request: The request was made by the NGO to the Wissenschaftsagentur Salzburg.

Aim: To investigate quality of life and living environment of young people in Lungau (a remote rural region of Salzburg province) with the aim of finding out their needs and desires.

Duration: January 2001 until September (November) 2001

Students: One Student conducting the research in the context of a Masters thesis



Costs: The project budget was 6.500 Euro. The largest share of this amount of money had to be used to cover the costs for layout and printing. The NGO (Akzente) provided the financing. The NGO also covered some of the student's costs for travelling and photocopying.

Outcomes (Publications, Deliverables and Dissemination Activities):

- Masters thesis: "Kinder und Jugendliche im Lungau. Zwischen Partizipation und Apathie", Salzburg 2001
- Brochure, (A4, 77 pages): "Zwischen Fortschritt und Tradition, Studie über die Lebenssituation von Jugendlichen" im Lungau, Salzburger Land"
- Brochure, (abstract, A5, 30 pages): „Zwischen Tradition und Fortschritt, Kurzfassung der Studie über die Lebenssituation von Jugendlichen im Lungau, Salzburger Land“
- Report on the radio in: Radio Salzburg
- Articles in Newspapers
  1. in: Salzburger Nachrichten
  2. in: Lungauer Nachrichten
- Reports on television on the project:
  1. in: Salzburg Heute
  2. in: Salzburg TV

Working Methodology: The main method applied for this project was a survey via questionnaire. In addition face-to-face interviews were conducted

Conducted Interviews:

Level 1: 1 student, 1 NGO representative, 1 Wissenschaftsagentur Salzburg representative

Level 2: Dean of the School of Political Sciences – University of Salzburg

**4.2.4. Case 3: Evaluation of a series of lectures on precaution against heart disease for Turkish migrant women in Tirol**

This project evaluates a series of lectures on precautions against heart disease for Turkish migrant women in Tyrol, which was conducted twice, in 1999 and 2001, by an NGO ("Ludwig Boltzmann Institut für Kardiologische Geschlechterforschung"). The evaluation was conducted by two researchers (FBI centre staff) involving two medicine students of Turkish origin as interpreters and experts of the cultural background.

Suggestions were made for a third series of lectures. The target group should be reached more directly and effectively, it should include a wider spectrum of Turkish

migrant women, and precautionary measures should be emphasised more effectively. The medical content was not a subject of the evaluation.

This project can be considered as rather typical for the FBI Institute in the methods applied, the intense co-operation, but not with regard to the lack of public relations and limited dissemination of results, restricted to internal use by the NGO. Key issues emerging from the interviews are the importance of an independent, external expert for project evaluation, the importance of qualitative methods and approaches in the evaluation and the recognition of the expert role of a fringe group.

#### *4.2.4.1. Fact Sheet*

National Title of the Report: "Ergebnisse der Studie zum Herz-Vorsorgeprojekt für türkische Migrantinnen in Tirol des Ludwig Boltzmann Institutes für Kardiologische Geschlechterforschung. Gründe für den Rückgang der Teilnehmerinnenzahl 2001 gegenüber 1999. Vorschläge für eine Erhöhung der Teilnehmerinnenzahl bzw. ggf. eine alternative Vorgangsweise."

English Title of the Report: "Results of a study on a project on precautions against heart disease for Turkish migrant women in the Tyrol of the "Ludwig Boltzmann Institut für Kardiologische Geschlechterforschung". Reasons for the decline in participant numbers from 1999 to 2001. Recommendations on how to increase the number of participants or on an alternative approach."

Request: The request was made by the NGO to the Science Shop (the FBI Centre).

Aim: To find out reasons for the decline in the number of participants for the second round of lectures (2001) and to make suggestions on how to reach the target group more directly and effectively, on how to include a wider/more representative spectrum of Turkish migrant women and furthermore on how to improve the dissemination of information on available precautionary measures?

Duration: September 2001 until December 2001

Students: 2 students, involved as interpreters and experts of the cultural background.

Costs: The project budget was 3.270 Euro. The NGO (Ludwig Boltzmann Institut) provided financing.

#### Outcomes (Publications, Deliverables and Dissemination Activities):

- Evaluation Report (only available internally)
- Presentation of the report
- Position? Post for one student
- Improved follow-up series of lectures
- Two follow-up project assignments for the Science Shop (the FBI Centre)

Working Methodology: The main methods applied for this project were a group discussion, in-depth interviews, group interviews, informal conversations and statistical data (statistics).

#### Conducted Interviews:

Level 1: 1 student, 1 NGO representative, 1 FBI Centre representative - researcher

Level 2: Managing director of the NGO

#### **4.2.5. Impact and Policy Evaluation**

In general, Science Shops are perceived as valuable organisations contributing to the improvement of the relationship between science and society. However, their importance should not be overestimated since Science Shops are one link in a chain of - preferably concerted - activities ("Science Week", "Young University", "Science and Responsibility") aimed at developing the dialogue between science and society.

##### *4.2.5.1. Benefits for the NGOs*

- Science Shops are perceived as providing independent external expertise and much appreciated different angles and perspectives.
- Science Shop projects are not only broadening the "store of knowledge" in general, they always increase the capacity to act for the client organisation.
- Science Shops are considered more accessible than a university department because of to their explicit openness to the public. So it is easier for the clients to establish contact and start a project.
- Science Shops have low financial barriers. They are sometimes the only affordable way for NGOs to satisfy their knowledge requirements.
- Science Shops emphasize the expert role of the client and of the target group. The knowledge of lay people is considered as important as academic knowledge.

#### *4.2.5.2. Benefits for the Research System: Benefits for the Students*

For students, there are numerous benefits in participating in Science Shops projects.

- The Students can apply their academic knowledge to a real-life situation.
- The students interviewed in the cases preferred topics with a practice bias and were especially pleased that the results were useful for certain groups and could be applied.
- They learn to connect and bring together the various needs and demands of different groups with their rather theoretical-scientific background.
- They get the opportunity to establish contacts and achieve relevant experience, which is an important element in their educational profile.
- Career opportunities are created.
- They develop key skills as well as social competence.
- Last but not least the students earn some extra money.

#### *4.2.5.3. Benefits for the University System*

- In the opinion of four interview partners, Science Shops and similar organisations contribute to the reputation of the university. As universities take responsibility for future developments in society by providing research for social groups, science and the university are being appreciated as relevant to everyday life and useful.
- Science Shops help to communicate newly emerging issues to scientists.
- A special feature of the work of a Science Shop is the translation of an everyday problem into a scientific question, to position it as an interesting topic in the scientific environment. (The transformation of the Original Request into a Scientific Question)

#### *4.2.5.4. Common Benefits for NGOs and Students*

- Science Shops offer support, supervision and mentoring on rather neglected aspects such as variety of methods, participatory approach, communication, public relations, technical support or simply personal motivation and encouragement.
- Communication with a Science Shop was perceived as easy and helpful compared to the communication between university members and students.

#### *4.2.5.5. Appropriate Methods and Time Frame*

In all cases qualitative methods were applied in addition to quantitative ones. Face-to-face interviews seemed to generate a deeper understanding of the problems from an individual's point of view. The qualitative approach created an atmosphere where the

interviewees were considered as experts of their own situation and felt being taken seriously.

The interviewees were not only regarded as objects of research but as subjects. The expert role of the client and of the target group is one characteristic of Science Shops projects. The knowledge of lay people is considered as important as academic knowledge.

Due to the Science Shops' participatory approach and their focus on empowerment they prefer to apply qualitative methods. They use methods that focus on the people concerned and on their opinion and assessment. To achieve sustainable changes, participatory methods seem to be a good choice. They allow an in-depth investigation and give the participants a voice. Even if self-completion questionnaires are used, generating huge amounts of data, qualitative methods are also applied (see case 2). It seems that pushing qualitative approaches and methods assures applicability of results and practical relevance.

#### *4.2.5.6. Communication Process*

- A Kind of Translation - Transformation of the Original Request into a Scientific Question

A special feature of the work of a Science Shop is the translation of an everyday problem into a scientific question, to position it as an interesting topic in the scientific environment.

- Project Initiation and Announcement of the Research Topic

The findings of case 2 and 3 as well as our experience show that research projects frequently arise from long-term relationships with NGOs or key individuals in the social or environmental field. This points to further aspects like the importance of networking.

- A clear research aim is defined in co-operation with the client

The aims of the research project are defined in co-operation with the client. They are also partly involved in the choice of method and are tied into the research process for progress monitoring.

- Communication and Teamwork during the Main Research Process

In two cases communication between the researcher, the Science Shop and the client was very intensive, with all participants meeting in person at the beginning and the end, intermediary meetings of Science Shop members and researchers, and telephone calls and e-mails as necessary. In one case the research was conducted by Science Shop staff. Especially the student researchers found the communication easy and helpful compared to communication between university members and students.

The Science Shop staffs were perceived as more open to all questions, and more willing to provide various kinds of support. In all three cases the communication flow was adjusted to individual needs and did not follow bureaucratic conventions.

#### *4.2.5.7. The Political Role of the Science Shops*

Science Shop projects initiate research and help to develop societal discourse on important but rather neglected topics.

#### *4.2.5.8. Potential for Improvement*

- Science Shops lack visibility within the scientific circle. To increase the visibility of Science Shop activities within the scientific community there is a clear need to increase efforts to publish in scientific journals.
- To attract more attention to their work and to raise the interest of potential clients, further efforts have to be made. One possibility might be improved networking and personal contacts. Further investigation on this topic is required.

### **4.3. Scenario Workshop**

#### ***4.3.1. Basic Reference Data***

Country, Location: Austria; Innsbruck, Zukunftszentrum, Universitätsstrasse 15, 6020 Innsbruck, 1st Floor

Title of workshop: “The future of the dialogue between science and society through intermediaries”

Date and Duration: Tuesday, April 22nd 2003, 9:00am – 5:00pm

Moderator/organiser: The FBI Centre; Gabriela Schroffenegger and Andrea Gnaiger

#### Information Material:

Materials sent out beforehand to inform and attract the participants:

- Letter of invitation (email)
- Information on the FBI Centre
- Leaflet: Setting the scene and introducing the project and the wider setting of SCIPAS and ISSNET

- Information on the workshop method and the aims of the workshop (see Appendix: A3)

Materials used at the Workshop:

- Press release
- Information on the FBI Centre and information material on various projects conducted by the FBI Centre, including booklets and brochures produced by the FBI Centre
- Flipchart posters outlining the workshop program
- Overheads introducing the general idea of EASW, explaining the participatory method applied in the workshop and general information on the projects INTERACTS and ISSNET.
- Handout 1: Each role group (politicians, scientists, NGOs, intermediaries) was supplied with a handout to help develop the scenario, pointing out the main questions to ask and what steps to take.
- Handout 2: Each thematic group was supplied with a handout focusing on the suggested questions and including a coordinate axes schema supporting a structured presentation of the findings.

#### ***4.3.2. Participants***

- **NGOs:** 1 representative of the Tyrolean Trade Association, 1 representative of the Rudolf Steiner School, 1 representative of ATTAC, the managing director of the Association for probation services and social work (ATA).
- **Intermediaries (Science Shops):** 1 representative of the outreach unit of Innsbruck University, the general manager of the SOWI holding PINN (Science Shop equivalent), 1 journalist, 1 staff member of the “Future Centre” (Zukunftszentrum der AK), 1 consultant - SOS-Kinderdorf – research unit.
- **Policy makers:** Innsbruck city councillor - responsible for education and health, the head of the youth section of the Tyrolean Chamber of Labour, the coordinator of the integration department of the Tyrolean regional government.
- **Science:** 1 education manager - adult education - consultancy, 1 member of the department of applied linguistics at the university of Innsbruck, 1 representative of the official students union at the university of Innsbruck (ÖH), 1 student from the university of Innsbruck - EU project MIDAS.

#### ***4.3.3. Presentations by the Organisers***

- Andrea Gnaiger: INPUT 1 – Introduction on the FBI Centre, the INTERACTS project and the wider setting of ISSNET and SCIPAS

- Gabriela Schroffenegger: INPUT 2 - Introduction on the European Awareness Scenario Workshop Method - Reasons (*Collingridge Dilemma*) and Aims
- Gabriela Schroffenegger: Instruction: Teamwork 1; detailed instructions on the development of the scenario
- Gabriela Schroffenegger: Instruction: Teamwork 2; information on how the thematic groups are composed and why they are composed in this way.

#### **4.3.4. Workshop Results**

##### *4.3.4.1. Scenario NGO*

University (research and education) is envisaged as an active part of society. Each university has a service centre responsible for the dialogue between science and society, as well as a supervisory board. This board consists of representatives of NGOs, grass roots movements, trade unions, business ...and aims at initiating, supporting and monitoring the dialogue with societal groups and at auditing the implementation of community-based research.

*What must be done to accomplish the vision described?*

- Regional independence need to be supported.
- NGOs must gain more social influence.
- Debate and dialogue must be improved.

##### *4.3.4.2. Scenario Intermediary*

This role group envisaged a „House of Science“, a place where all mediation facilities are established, where dialogue can take place and everybody is welcome to bring forward their concerns. To get into contact with university - to literally cross the threshold - is seen as one major problem. Therefore apprehension about approaching the House of Science needs to be addressed. A two-way translator function, also available for the scientists' side, is regarded as very important. The “House of Science“ is seen as a meeting place between civil society and scientists.

*What must be done to accomplish the goal?*

- The different actors have to be involved right from the beginning, including the planning phase.
- Openness towards the media must be practised
- Scientific translators are needed, also available for the scientists.
- Already existing mediation units, transfer units should form the basis (nucleus) of further development of the concept of a “House of Science”.
- The venue has to be well-known and accepted - a place where people like to go.



- A place where you get into contact with scientists, where you can have discussions with them.
- The University must supply a framework for scientists to get involved in the dialogue.

#### 4.3.4.3. Scenario Politics

Future perspective: Science should improve quality of life and living conditions.

*What must be done to accomplish the goal?*

- The role group politics would strengthen democratic structures.
- Invest in comprehensive education and life-long learning.
- Tax breaks for everybody who takes part in educational programs.
- Society's value system should be reflected within the scientific system.
- Benefits for the quality of life should also be a criterion for appointing academic staff. Scientists must become sensitized to questions such as: Has my research any added value for society? Scientists should be encouraged to think about potential benefits and clients.
- Further to their research and education record, the ability to mediate should be considered an additional qualification for researchers and should be valued in the future career (comparable to credit points for students who engage in community-based research).

#### 4.3.4.4. Scenario Science

The scenario of this role group can best be described as “the university goes public and is public”. This includes thoughts like: appreciation of the “everyday knowledge of students; no more academic titles; there are many ways to acquire knowledge and university is just one out of many; importance of networking, dialogue; science goes to the pubs, importance of evaluation and gender mainstreaming.”

*What must be done to accomplish the goal?*

- Decentralisation of research
- Wise and fair distribution of sufficient resources (What kind of distribution system needs to be developed? Who can be in charge of this distribution system? How can it be evaluated/ audited?)
- Science into the pubs!
- What does a university stand for? What are the tasks of a university? Teaching and research. In addition, a university should also cover general education and adult education (“Volksuni”).
- Networking of organisations, units within the university.
- Universities to orientate themselves towards the needs of social groups.

- Transparency and evaluation are important.

#### 4.3.4.5 Common Priorities (Thematic Groups)

##### Thematic Group 1: Interface – House of Science

This thematic group envisaged a “House of Science” comprising all mediation facilities at the university, acting as a service centre open to the public and the scientists. The House of Science would stand out through its professionalism, a uniform image, continuity (it needs time to build up trust) and incentive work. Its main functions would include public relations, promoting science and scientific results, networking and enabling a dialogue attractive for scientists. Framework: At the outset suitable facilities are needed. There must be incentives to attract scientists into getting involved in community-based research and knowledge transfer.

##### *Obstacles to be expected:*

Lack of financial resources, individual interests of mediation institutions (reluctance to give up something built up over years)

Organisational structure: An alternative structure has to be found.

##### Thematic Group 2: Objectives – Relevance – Resources (of Science)

This group thought about the aims of science, relevance criteria to be developed on the basis of socio-political decisions, the demands of society and the transparency of science and research.

##### *Obstacles to be expected:*

To distribute always means to take away resources from somebody.

“Besitzstandsdenken” (ownership mentality)

##### Thematic Group 3: Participation

At the moment, the university and the scientific environment are changing and the future structures are unclear. The present state of participation in civil society is unsatisfactory and needs to be improved. The group envisaged a supervisory board with representatives of NGOs, trade unions, grass roots movements, citizens’ action groups.

This supervisory board would contribute on two levels:

- a) The board would have a say in the following debates: Who does research, when, on which topics and are topical regional research projects included?
- b) Control and incentive: e.g. How are the resources used?

Basic research and core financing must be guaranteed.

##### *Obstacles to be expected:*

The selection procedure for the supervisory board is regarded as tricky and raises questions such as: Who should select? Which criteria are going to be applied? Where

should the board be located? Should this board be operational on a regional or national level?

#### **4.3.5. Proposals for Future Actions**

- Establishment of a working group to develop a concept for a “House of Science”.
- Representatives of intermediaries and other organizations decided on closer cooperation in future. This includes forwarding information on actions taken, exchanging information about meetings and activities planned (including invitations to meetings and activities).
- Setting up of a new mailing list (this task will be organized by the FBI Centre).
- Feedback meeting in September or October, organized by the FBI Centre, to report on activities, progress and to keep the discussion on the topic “improving dialogue between science and society through intermediaries “ going.

#### **4.3.6. Implementation/dissemination**

##### Implementation of Results (ongoing or planned)

- A new mailing list is being set up.
- Feedback meeting is planned for October or November.

##### Dissemination (press release, articles etc. produced or planned)

- Article in the regional newspaper (TT) (April 26<sup>nd</sup>).
- Documentation of results sent out to the participants of the workshop and also to key people interested in the topic of the workshop.
- Report on the workshop produced in the context of the EU project Interacts, which will be used for further dissemination.

#### **4.3.7. Comments/Reflections from the Organisers**

In the morning the workshop progressed as planned and expected. The organizers’ presentations, the instructions given and the handouts did not raise any further questions and no problems occurred. The distributed materials were perceived as clearly structured and easy to understand. The individual groups were able to work independently on their respective topics. Although the organizers did offer additional information or assistance if desired there was no expressed need for it. Drawing up the topics for the thematic groups proved trickier than expected. There was not always agreement on suggestions for topics, particularly on whether a suggested topic was really a topic for the thematic groups. This task needed some assistance and guidance

from the moderator. Finally four topics emerged that the participants could agree on. This discussion did take more time than had been allowed for and also proved rather exhausting for the participants. In order not to open up discussion again, it was decided to change the workshop design slightly and to select the participants for the thematic groups before lunch and not as original planned after lunch. It was felt to be more motivating for the participants to start the afternoon with a new task - the thematic groups. To speed up the process, the participants were asked to select the thematic group they wished to join. If an imbalance emerged, the organizers would have intervened and tried to reorganise the groups, which was not necessary. Surprisingly, the topic "structures and parameters" (for the dialogue) did not attract participants and the organizers did not want to force anyone into it. Thus there were just three thematic groups in the afternoon instead of four.

As the afternoon programme started more than half an hour later as planned, some slight adjustments had to be made. The process of generating concrete actions based on general suggestions had to be simplified and speeded up. The structure was loosened, giving way to a more open kind of discussion, which turned out to be very productive. The workshop finished as planned at around 17.00. The majority of the participants perceived the method itself as motivating, enjoyable and supportive of the working process. The opportunity for contact and exchange with different stakeholders was perceived as positive and enriching.

## **4.4. Suggestions for Policy Recommendations based on National Experiences**

### ***4.4.1. State-of-the-art Report related Recommendations***

- Science Shops are not sufficiently known in the scientific community and to policy makers on a national, regional and local level. To improve the visibility of the Science Shops the following measure should be considered. (WP 3)
  - Disseminate already existing information on Science Shops and their benefits (e.g. summaries in the national language of reports drawn up in the context of the following EU funded projects: SCIPAS, INTERACTS and ISSNET.)
  - Link Science Shop activities to other science and society related activities.
  - Strengthen networking of Science Shops on a national level

#### **4.4.2. Case-Study-related Recommendations**

- Science Shops lack visibility within the scientific circle. To increase the visibility of Science Shop activities within the scientific community there is a clear need to increase efforts to publish in scientific journals. (WP 4)
- To attract more attention to their work and to raise the interest of potential clients, further efforts have to be made. One avenue might be improved networking and personal contacts. Further investigation on this topic is required. (WP 4)

#### **4.4.3. Scenario Workshop related Recommendations**

- The dialogue between science and society needs to be improved. The current situation is regarded as dissatisfactory. Most of the intermediary organisations were considered too small, with insufficient resources and not enough public relations. Furthermore, the work done by intermediaries is felt to be under-appreciated and not of high enough importance for the university. This was regarded as one weakness in the self-image of universities but also as weakness in the Austrian socio-political development. Dialogue about the relationship between science and society has to be promoted and improved in a more egalitarian and open way. It is simplistic to regard scientists just as suppliers of new technologies and research results that sell.

Some programs and approaches of the European community in this context are regarded as more progressive. Whereas many positive things developed in a European context are not recognised in order to be further developed, expanded or implemented in the member states.

The knowledge society, the development of human resources and the democratisation of science need the participation of all citizens, but are in fact developed by a small elite. To have general access to knowledge and research results is seen as positive but considered insufficient. The challenging questions are: Who selects what is considered as relevant knowledge? Who decides on the priorities to be set? (WP 5)

- The process of developing the dialogue between science and society does not only lack money. Of course, money would enable the realisation of many projects and concepts to promote the dialogue between science and society. But to really get things going, the perception of the topic and the socio-political climate needs to change.

The dialogue cannot be carried on by small intermediary organisations alone. The participation of society is needed. The intermediaries can organise the framework for this dialogue and come up with ideas and concepts supporting it. (WP 5)

- Many organisations are in fact already working on this interface between science and society in Innsbruck. Some of the organisations did not know each other before. Right from the beginning of the workshop, there was a strong desire to network, to cooperate and to exchange information. It was also seen that an association of intermediaries would strengthen their political position and increase the potential to influence the socio-political development. The idea of a “House of Science” as a place where science would be visible and accessible was very much desired. (WP 5)
- The experience and the knowledge of the different social groups were considered important and should be accepted as equal to scientific knowledge. The concept of a “House of Science” would offer the opportunity to connect this “everyday knowledge” with scientific knowledge. (WP 5)
- What needs to be done to improve the dialogue between science and society was expressed rather clearly. Apart from sufficient resources, work has to be done on the “self-image of those who produce knowledge” and on the “general political will”. Ideas and concepts of knowledge transfer, models of participation, models of promoting and developing the dialogue between science and society exist, they just have to be implemented. Hampering their implementation might be the fact that they are not well-known or just not recognised as models. (WP 5)
- Further to research and teaching, the ability to mediate should be considered an additional qualification for researchers and should be taken into account for the future career (comparable to credit points for students who engage in community-based research). The mediation and networking tasks should be appreciated and valued. (WP 5)
- There are indications that NGOs are not sufficiently informed about the possibilities universities would offer them. There is a lack of awareness about what can be done by universities and about what exists already. Supply (knowledge resources of the university) and demand (the needs of NGOs) should be brought together. (WP 5)

## 4.5. Available Reports and Materials

### Reports:

Gnaiger Andrea, Schroffenegger Gabriela, Strähle Michael: *Country Report Austria in: State of the Art Report*, compiled and edited by Corinna Fischer and Annette Wallentin, June 2002.

Gnaiger Andrea, Schroffenegger Gabriela: *Austrian Case Studies Report: West - The Innsbruck and Salzburg Cases*, INTERACTS Report no. 2b, Publisher: The Science Shop c/o Department of Manufacturing, Engineering and Management at the Technical University of Denmark, January 2003.

Gnaiger Andrea, Schroffenegger Gabriela: *Austrian Participatory Workshop Report, The Innsbruck Workshop*, August 2003.

### Material and Documentations:

Scenario Workshop Documentation, produced by Andrea Gnaiger and Gabriela Schroffenegger, April 2003.

Document on the experiences with the adjusted EASW method applied first at the Innsbruck workshop in April 2003, as a working paper and guideline for the INTERACTS project partners to draw up their respective workshops, April 2003.

### Press releases

Press release on the INTERACTS project in general.

Press release on the participatory workshop resulting in an article in the regional newspaper (TT) on April 26<sup>nd</sup>.

### Oral presentations

Presentation of the INTERACTS findings and Science Shops in general at the kick-off meeting in Rinn (Innsbruck, Austria) of the GRUNDTVIG II project "House of Knowledge", October 30<sup>th</sup> till November 2<sup>nd</sup> 2003.

### National INTERACTS dissemination events

INTERACTS Scenario Workshop 22<sup>nd</sup> April, Zukunftszentrum der Arbeiterkammer Tirol: included representatives from the city and the region.

INTERACTS dissemination event and feedback workshop, scheduled for November 2003, Zukunftszentrum der Arbeiterkammer Tirol.

**Informal talks and written material provided to the following groups:**

Policy makers (the science spokespersons of the mayor Austrian political parties, mayor of the city of Innsbruck, Innsbruck city councillor - responsible for education and health, the head of the youth section of the Tyrolean Chamber of Labour, the coordinator of the integration department of the Tyrolean regional government...).

Members of the University of Innsbruck (e.g. the headmaster of the University of Innsbruck, the manager of the outreach unit of the University of Innsbruck, Young University, PINN, Science and Responsibility....)

Selected NGOs in the Innsbruck region (e.g. ATTAC, Migrants Centre Tyrol, ATA., Women Health Centre....)



## **Appendix 5: National Summary: Austria (Vienna)**

### **5.1. National context**

#### ***5.1.1. Discourse on science and society***

For the situation in Austria, see National Summary: Austria (Innsbruck) and subchapter „Trends“

#### ***5.1.2. Political framework***

See subchapters „Funding“, „Trends“, and „Overview“

#### ***5.1.3. Funding regulation and networking***

Between 1992 and 1995, Austrian science shops, as pilot projects, were funded by the Austrian Ministry of Science. Since then, no further basic funding has been granted, because performing mediation, organisational and conceptual tasks do not count as genuinely "scientific". Science shops affiliated to a university receive public funding and additional funding from universities. Independent science shops live on publicly and privately funded projects.

Besides informal contacts, there is no network of the four science shops in Austria.

#### ***5.1.4. The NGO society as potential clients***

Although the Austrian non-profit sector is strong and plays an dominant role in the political system, non-governmental organisations play an increasing but still not dominant role in the Austrian society. Because often even typical non-governmental organisations such as relief organisations and lobbying groups can be ascribed to a political party, contrary to other countries, the non-profit sector as a whole still does not constitute an important political counterpart to economy and government. The decreasing governmental control over society could be to the benefit of civil society.

As in other countries, the Austrian non-profit sector is characterised by an enormous heterogeneity in respect to size, form of organisation, political and social embeddedness and financial strength. Additionally, there are significant differences between regions. Organisations affiliated to the Catholic and to the Protestant Church play a very important role for education, social welfare and immigrant and asylum seeker-oriented services. In some spheres such as healthcare, non-profit organisations actively compete with businesses.

The non-profit sector is financed by public subsidies, donations, charges for expenses, membership fees, sponsoring, endowments and loans. For years the public subsidies for many non-governmental and other non-profit organisations are no longer being increased. Increased competition for funds will push non-profit organisations to re-orientation and professionalization.

There is a tendency among clients to employ graduated staff or to rely on graduated volunteers. This might enable NGOs to establish or keep good relations to universities, offer opportunities for getting often excellent information and change their expectations from science shops. Whether and to what extent this affects science shops, or these staff members do research for their organisations and have already established research contacts to university departments, remains to be investigated.

#### **5.1.5. Institutional framework**

There is no legislation explicitly regulating the work of science shops. University-affiliated science shops are affected mainly by the legal and political framework regulating universities' tasks and university studies. Other science shops are affected by documents regulating their possible organisational forms as well as research funding and grants.

For further information, see National Summary Innsbruck.

#### **5.1.6. Political trends**

At the moment, the Austrian university system is under reform. Important changes are: increased competition among the universities, full legal capacity for universities, development of university and faculty profiles, implementation of new civil service regulations for university scientists and researchers. Universities will be required to make agreements with the ministry of education, science and culture concerning their strategic targets. Their performance will be evaluated every three years. Among these targets will be social responsibilities and service for the public, which is where science shops might come in.

In autumn 2002, a new scheme for studies was introduced which is in line with regulations in the other member states of the European Union. The main objective of the curricula renovation is to bring curricula closer to the demands of employers and to shorten the average duration of studies. It is expected that work on a thesis should take no more than six months (before, it was often a year and more). This and the introduction of bachelor degrees could bring important changes for science shops working with graduate students. It might be that fewer students will finish their studies

with a Master thesis and they may have no time for mid- or longterm projects, so projects will have to be split up, which will require much more co-ordination.

Recently, a number of Fachhochschulen (universities of applied sciences) have been founded, a type of practically oriented university whose task is to provide scientifically founded vocational training. So far, there has been no co-operation between science shops and Fachhochschulen.

The general political programme of the ÖVP-FPÖ government makes little reference to knowledge transfer, participation or the social mission of research. The keywords are competitiveness, career chances for young academics, and efficiency. Co-operation and action orientation is only discussed with respect to business or within the scientific community itself.

In the Government Reports on Research communication with the public focusses on counselling activities by scientists, their participation in adult education, or popular publications. Some Forschungsschwerpunkte (priority research areas) are expressively linked to the idea of participative research. Some of them had already been launched under the former government. All university mission statements stress the applicability of research undertaken. Seemingly, Viennese universities legitimise themselves by being responsive to applied research on behalf of lucrative clients. For Innsbruck University see National Summary Innsbruck.

On a national level, the Green Party intends that universities "put their problem solving capacities at society's disposal in a dialogue with the citizens" (Grüne Österreichs, 2001, p.41). Science shops are not explicitly mentioned, but are known to some Green policymakers.

See also National Summary Innsbruck.

In general, science shops in Austria receive some recognition within universities, with individual policymakers and certain ministerial departments. Still, they are not much actively supported by policymakers and they are not yet known enough to the general public. Among NGOs, local NGOs know science shops better than national ones.

#### ***5.1.7. Overview of Science Shops in the country/region (amount and type of Science Shop)***

At the time being, there are four operational science shops: the WissenschaftsAgentur Salzburg (WAS), the Wissenschaftsladen Graz, the Wissenschaftladen Wien, and the Institut für gesellschaftswissenschaftliche Forschung, Bildung & Information, Innsbruck

(Institute FBI).

The main target group of the WAS are solvent clients such as businesses and public administration. The organisation functions as one of the university's service units. Up to now no specialisation on a limited range of research areas took place. Research work is done by students alone.

The Wissenschaftsladen Graz addresses clients who cannot finance their own research and present relevant social topics without commercial background on behalf of the Karl Franzens University of Graz. The institute also performs own research projects funded by administrative bodies. Mediation services are not limited to a restricted range of topics.

The Institute FBI (former Science Shop Innsbruck) is an independent non-profit organisation (NGO). It is accessible to NGOs, grass-rooters, citizen groups etc. It started off with a focus on mediation between civil society and the university. Over time, the focus changed towards conducting own research projects which also serve as a commercial arm.

The Wissenschaftsladen Wien is also a science shop without strong ties to universities. Nevertheless, the institute conducts research on the behalf of non-profit organisations and specialises in information and communication technologies, gender issues and science studies.

All Austrian science shops are organised in form of a registered association (non-profit organisation with the advantage of exemption from value-added tax). Graz and Salzburg have agreements with the local universities which provide them with contacts to researchers and basic funding. In contrast, Vienna and Innsbruck are conducting their own research projects.

#### **5.1.8. Comments on the State-of-the-Art Report**

An investigation of national policy documents, universities' mission statements, research programmes and programmes of political parties, which was carried out for the INTERACTS Report No.1 (State-of-the-Art Report), revealed that low threshold access to expert advice for citizens is not an important issue, if at all, for almost all political authorities and the scientific community. In the debate on bringing science and society closer to each other, generally, research to the benefit of small to medium civil society organisations and especially research by science shops, understood as low threshold access to expert advice for citizens, are still not topics which are sufficiently recognized

by all stakeholders.

Making science shops known to influential players in the scientific community and to policy makers draws attention to science shops and promotes a more prominent role of science shops in debates on bringing science closer to society and on a knowledge-based society. Science shops would benefit from a more prominent role in several ways: It could make a national and regional financial and political support for science shop activities more likely and improve the image, standing and viability of science shops. Because most science shops do not have enough resources to promote a more prominent role in debates, any activity to do so is worthwhile as is proven by the effects support measures by the European Commission such as Action 21 of the Science and Society Action Plan already had on the national level. Increasing the symbolic capital of science shops that way could also increase the numbers of science shops, especially in Eastern and Southern Europe, which would give the International Science Shop Network additional momentum and could create a more well-balanced representation of EU Member states in the International Science Shop Network.

The potential contribution of science shop activities to several science and society-related activities is still undervalued. To give an example: Science shop research sometimes gives early signals of future topics of risk communication as has been the case with electro-magnetic radiation of mobile phones. Linking up science shop activities with risk communication, e.g., could create synergy effects. In general, linking science shop activities to other compatible science and society-related activities increases awareness of science shops and of other activities they are linked to.

Especially independent science shops often do not have the stable financial basis they need for meeting their objectives: Most of them depend on uncertain project income alone and, contrary to other research institutions, do not have infrastructure funding, which covers overhead costs. Project grants and topics are subject to negotiation, which often leads to an adaptation of clients' research interests to the ideas of the sponsors. At university-based science shops supervisors imposing their ideas on students make similar adaptations necessary. Such adaptations lower the effectiveness of science shops.

## **5.2. Vienna Case Studies Report**

The Case Studies Report (CSR) reflects intermediation by the science shops in one of

their main fields of work: Supporting NGOs by organising student researchers, who dedicate their master theses to the questions of NGOs and, which are of essential interest for the NGOs and by accompanying the research process.

Our self-reflective analysis is based on semi-structured anonymous interviews, which were conducted with different participants of three cases, i. e. representatives of the NGOs, science shops, the student researchers and their supervisors from the universities. Interviewees of one case gave us their different interpretations, desires, aims, angles of views, which could differ considerably in each case or focus on different aspects. All together they gave us a good picture of what can import to the different groups to make these projects successful.

### **5.2.1. Criteria for case selection**

To get a broad range of cases all partners got some guidelines concerning some features of the cases like size of the NGOs and fields of research. In our cases social requests by small to medium NGOs were required which had to be answered in collaboration with students from universities. Within this given frame we had free choice. We did not choose best practice cases but tried to find projects, which would provide a broader spectre of cooperation between scientists and practitioners. We took two cases from the colleagues in Graz, whom we asked for one best case and one more complicated case. The most complicated case we took from Vienna.

### **5.2.2. Case 1: Mega Settlement**

The project MEGA-SETTLEMENT was initiated by the IG NEIGHBOURHOOD, a social center in a settlement. At the beginning stood questions about the aging structures of the housing area and the costs of living. Many of the tenants were supposed to have social and financial problems, many of them were likely to live at the limit of poverty. IG NEIGHBOURHOOD investigated and invited expert and a larger project developed. It aimed to improve the tenants' quality of life living by giving them more responsibility and autonomy. The contact to the inhabitants, some politicians and experts led to the project called „MEGA-SETTLEMENT. The engagement of the inhabitants led to many pilots such as the Stiegenkassa, the implementation of a LETS-System as well as a radio and a newspaper organized by the group. The role of the science shop was the scientific evaluation of the project. It was not possible to acquire resources for this, but the evaluation turned out to be very important for the project. The science shop split many very general and openly formulated questions into a range of themes which could be answered in master theses. For most of these questions students could be found and there was a dozen of students who worked on very different questions and built a

interdisciplinary team.

#### *5.2.2.1. Fact sheet*

National title of the report: Because we guaranteed full anonymity to all interviewees, this information cannot be given here.

English title of the report : Mega Settlement

Request: At the beginning stood questions about the aging structures of the housing area and the costs of living. Many of the tenants were supposed to have social and financial problems, many of them were likely to live at the limit of poverty. IG NEIGHBOURHOOD investigated and invited expert and a larger project developed. It aimed to improve the tenants' quality of life living by giving them more responsibility and autonomy.

Aim: New research on the matter was requested as there was no research found. It should focus on the needs and desires of the buddies.

Duration: June 1995 until Autumn 1998

Students: The students came from the University of Vienna (Institute of Sociology), Vienna University of Economics and Business Administration and the Vienna University of Life Sciences and the Technical University of Vienna.

Costs: There was no budget besides reimbursement for expenses.

Outcomes: Student theses, which are widely used by the NGO, discussions with inhabitants and project participants and a brochure.

Working methodology: Interviews with inhabitants, researches, field research, analysis of statistics, analysis of media, qualitative interviews, and questionnaires.

Interviews: We interviewed the responsible NGO contact person, the person in the science shop, who coordinated in that case, and one of the student researchers.

#### **5.2.3. Case 2: Volunteers as Buddies for Mentally Disordered Persons**

Mentally affected persons are always in danger to become completely isolated. The aim of the project is to find volunteers, who spend some leisure time with them or daily routine, which would support the healthy parts of the personality and to improve the

quality of life. This is called social companionship and it is considered as completely different from and as a supplementation to the medical care by professionals.

The NGO wants to know, if social companionship is successful. More insight is needed, if this system works well to the benefit of the mentally disordered persons and how members of both groups feel, those who care and those who are cared for. There are no funds for scientific research, so the project operators ask the Science Shop Graz for assistance.

The science shop develops topics for master theses, and a student writes a theoretical part about voluntary work and does 16 interviews with volunteers and with the mentally disordered. She finds out that there is much benefit for the ill persons as well as for the volunteers. Problems of human relations, like the problem of closeness and distance, arise. She suggests that there should be found more men for the companionship.

Some of the results are new questions which are likely to be worked on in future students theses such as the question of the personal development of the volunteers stimulated by their work and the question of male volunteers. The results are used by the NGO especially to improve the preparation and support of the voluntary buddies.

#### *5.2.3.1. Fact sheet*

National title of the report: Because we guaranteed full anonymity to all interviewees, this information cannot be given here.

English title of the report: Volunteers as Buddies for Mentally Disordered Persons

Request: The NGO wants to know, if social companionship is successful. More insight is needed, if this system works well to the benefit of the mentally disordered persons and how members of both groups feel, those who care and those who are cared for. There are no funds for scientific research, so the project operators ask the Science Shop Graz for assistance.

Aim: New research on the matter was requested as there was no research found. It should focus on the needs and desires of the buddies.

Duration: Spring 2001 until Spring 2002

Students: The student came from the University of Graz, Institute for Social Education.



Costs: There was no budget.

Outcomes: Master thesis, which is broadly used by the NGO to develop training and support for their voluntary buddies, feedback of and for clients and buddies about their work, improvement, public relation.

Working methodology: Theoretical analysis of volunteering, qualitative interviews with 14 persons

Interviews: We interviewed the responsible NGO contact person<sup>1</sup>, the person in the science shop, who coordinated in that case, one of the student researchers and her supervisor.

#### **5.2.4. Case 3: Children poverty in Austria**

The NGO became more interested in receiving sound scientific information on governmental subsidies for families in the course of its daily activities and directed a request to the science shop.

*„Because of the work on the subject of being a child the interest arose, how does subsidies for families work, mainly with the background how poverty effects children. And then we went to the science shop with this question.“ (Und aus der Arbeit mit dem Thema Kind sein, ist das Interesse zu diesem Thema entstanden, wie läuft Familienförderung, vor allem mit dem Hintergrund wie wirkt sich Armut von Kindern aus. Und dann sind wir mit dieser Frage zum Wissenschaftsladen gegangen.) NGO*

In collaboration between the science shop, the university and the NGO, the subject was more precisely delimited and formulated.

*„I was there at that discussion, where the professor who has promised to take that on .... and where he said that one can subdivided it into two dissertations .... and from that the dissertation subsidies for families and the other on poverty of children followed.“ (Ich war bei einem Gespräch dabei, wo der Professor, der zugesagt hat das zu übernehmen ... und wo er gesagt hat, das kann man in zwei Diplomarbeit aufteilen .... und daraus ist dann die Diplomarbeit Familienförderung entstanden und die andere Armut von Kindern) NGO*

At the invitation of tenders for the theses, two students applied for carrying them out and worked on the suggested subjects. The empirical research demonstrated that the

number of children living in Austria, who live in poverty or who are at the risk of poverty is relatively high and that this problem cannot be solved by activities oriented towards individual cases alone, but that general solutions must be found. The second research deals with the measures for a fight against poverty. It comes to the conclusion that these depend on many factors and that implementing a politically realistic measure requires a precise definition of the objectives.

The outcome of the master theses was presented in the course of a press conference.

*„And in spring we have decided to do a press-conference .... then we have met several times and tried to discuss what the press-conference can be like, who is talking about what, how we prepare for it and that we have done it in the end was important.“ (Und im Frühling haben wir uns dann entschlossen eine Pressekonferenz dazu zu machen. ... Dann haben wir uns mehrmals zusammengesetzt und versucht zu besprechen, wie die Pressekonferenz aussehen kann, wer worüber spricht, wie wir sie vorbereiten und dass wir sie dann gemacht haben, war wichtig) NGO*

#### 5.2.4.1. Fact sheet

National title of the report: Because we guaranteed full anonymity to all interviewees, this information cannot be given here.

English title of the report: Children poverty in Austria

Request: The NGO became more interested in receiving scientific information on governmental subsidies for families in the course of its daily activities and directed a request to the science shop.

Aim: An investigation into poverty of children in Austria, including governmental subsidies for families and following ideas how to fight poverty.

Duration: Enquiry in Spring 1998, the first master thesis completed in Winter of 2000, the second one in the Spring 2001.

Students: The students came from the University Graz, Institute for Public Economics and Institute for Business Education.

Costs: There was no budget.

Outcomes: Two master theses, one press conference

Working methodology: Models presented by Austrian political parties were described and compared in respect to prevention of children poverty and poverty was defined.

Interviews: We interviewed the responsible NGO contact person, the person in the science shop, who coordinated in that case, one of the student researchers and her supervisor.

#### **5.2.5. Main subjects and reflections about the three cases**

- The term science shop suggests a customer and somebody who offers a service. In contrast to this picture we found in two cases much discussion, consultation and clearing from the beginning. Projects can also consist in processes, where NGOs, students, supervisors develop a project together supported by the science shops.
- Not only the results of the research, but also the mere contact between practical workers or clients and researchers can be highly beneficial for both groups. The collaboration included consultation and exchange of experience. Discussions led to reflections and gave personal insights. Students as well as NGOs could acquire know-how and experiences during the cooperation process, which could improve their work, now or in the future.
- Intermediary institutions seemed very useful or even essential to make the projects possible. We saw that interviewees working in other fields had not much of an idea what could be done by researchers of the different disciplines. Evidently “ordering” research demands a lot of information about research institutes, departments, work areas, researchers, etc. The interdisciplinary research projects demanded even to select and to contact several institutes in different disciplines!
- The intermediary institute provided an organisational frame and security. Science shops organised, monitored, encouraged, mediated and developed clear role specifications, which was considered as extremely important. Because the cooperation included aspects of risks and dependencies - the NGOs gave confidential information to the students who depended on the goodwill of the NGO to finish their master thesis - the existence of a possible assistance in case of conflict weighted. Science shops appeared as trouble-shooters, who flexibly supported wherever support was needed.

- Independent research was very important for the NGOs. The view of an outsider, of a not-involved person and for this reason considered as more objective researcher was very much appreciated by requesting NGOs.
- It was also seen that NGOs must be extremely confident of their work to put a request to science shops, because they are informed that they will have no influence at all on results which will be the results will be open to everybody. This is more risky than paying a research institute!
- Financial aspects influenced the projects. Lack of money appeared often in the interviews, because there was not enough budget for intermediation work and the students. Although the high degree of scientific freedom for the students was partly attributed to the fact that they worked voluntary, it was regretted that expenses could not be paid.
- Science shops intermediation promoted the image of the students, because those who had been sceptical were surprised by their engagement and by their very good work.
- When university departments or supervisors did not cooperate, this was a obstacle for the project. University departments could hinder projects partly.
- Although the work of science shops was highly appreciated, their intermediation tended to become invisible, as soon as it came to presentations, because PR focussed on the more interesting aspects of the requests. Organisation, logistic or intermediation rarely caught the attention of journalists.

## **5.3. EASW-Workshop results**

### ***5.3.1. Basic reference data***

Title of workshop: Bedingungen der Zusammenarbeit zwischen gemeinnützigen Organisationen, Universitäten und Wissenschaftsläden (Conditions for Cooperation between Nonprofit-Organisations, Universities and Science Shops)

Date and duration: 12th June 2003, 9.45 – 17.30

Organiser and Moderator: The EASW was planned by the Science Shop Vienna and

moderated by Mag.a Michaela Enner.

Information material: Information about science shops and the project INTERACTS and the schedule were sent to participants

### **5.3.2. Participants:**

- **NGOs:** Fritz Endl (Director of the Regional Education Office Velm), Valerie Rückert (Director of the Wissensbörse), DSA Christoph Stoik (Bassena am Schöpfwerk), Mag.a Margit Wolfsberger (ethnologist, several projects, s WUK Radio), Mag.a Karin Hofer (artist and historian of arts)
- **Researchers and former students:** Mag. Gerhard Liska (ecologist and education trainer, has written his master thesis for a science shop), Mag. DI Dr. Michael Perenig (Institute of Forest Sector Policy and Economics), Angela Strzalka (student of musicology and ethnology, Union of Knowledge Transfer), Dr. Udo Wid (artist and biophysician)
- **Science Shops:** All of them actually work for a science shop: Mag.a Manuela Fritz (historian and philosopher, Regina Reimer (finalizing studies of sociology and ethnology), Dr. Michael Strähle (philosopher and sinologist), Mag.a Laula Streicher (sociologist and mediator), Mag.a Eva Timpe (biologist), Mag.a Christine Urban (sociologist)
- **Policy makers:** Peter Florianschütz (Union of Salaried Private Sector Employees, GPA and Austrian Federal Chamber of Labour, AK, Socialdemocratic Party of Austria), Dr. Hermann Huemer (research manager at the Vienna University of Economics and Business Administration), Mag.a Katharina Novy (sociologist and historian, Green Party Vienna), Mag. Sintayehu Tsehay (economist, Socialdemocratic Party of Austria, several NGOs)

### **5.3.3. Results of the Working Groups**

#### *5.3.3.1. Stakeholder Group Politics*

Background of their reflections is the democratisation of the whole society, in which knowledge and information are not only in possession ruling persons, but widely spread in the public. This implies, that society would develop into a completely different direction. Best Scenario is a structured civil society appreciating the work of the NGOs and Science Shops to a higher degree. The authorities will be obliged to make knowledge public. They pose the question: What is the task of a science shop regarding

the whole system?

In 2010 science shops should still produce research as public property, a not-hegemonial emancipatory science. They should not to produce marketable knowledge, which is the task of other institutes. They must not initiate secret knowledge as personal property. The access for civil persons must be easy and free of charge. Produced knowledge emerges from broader public interest. It is not meant as individual consultation, Political backgrounds are made transparent. Only non hegemonial knowledge will strengthen the non-governing actors in the society. Science shops shall give access to the knowledge, organise and manage science. They can but need not carry out research by themselves.

Science shops must work independent and impartial. Long term public subvention is necessary: science shops cannot do objective and impartial intermediation in dependance from the market, government or local authorities. Financing science shops by funds would guarantee continuity. Evaluation of the quality of their work should be complied by an committee of NGO members. It would be necessary to develop a prototype for this form of evaluation.

Science shops need basic subvention, but their resources are too small for doing much by public relation. There should be international exertion of influence on Austria. Democratisation of knowledge should be a positive standard of the European Commission.

### STEPS

Austrian plan for democracy \*\*\* EC recommendation for democratization of science and for science shops \*\*\* government guarantees finances for periods of 3 - 7 years \*\*\* creating a fund \*\*\* working out a model for the NGO-advisory groups \*\*\* pubic relation work

### Key factors

Networking with Stakeholders \*\*\* Guarantee for Subvention \*\*\* Lobbying for Science Shops \*\*\* Initial Subvention by the EU \*\*\* Standards

#### *5.3.3.2. Stakeholder Group Science*

Their main point is promoting a more holistic form of science and research. Now-a-days everything is split up into different disciplines. A holistic approach demands for integration of the different research fields. In 2010 there exist interfaces between the

different approaches of people, their different interpretations of reality through education and experiences.

In 2010 there is an own subject of study for coordination of and overview between different disciplines. There is an Institute for Integrative Science and a master degree can be acquired. There will be guest lectures which can everybody give, i. e. shoemakers or farmers as well as professors. All topics are possible.

A tree of knowledge is produced with all the different research disciplines. Collaboration with universities of arts strengthens intuitive thinking. Actual access barriers to science are power, reliability and terminology. Hence, the subject Integrale is tutored at schools as well as at universities, pupils learn about the structure of knowledge and where you can find information. Promoting knowledge about the knowledge is one task of science shops.

#### STEPS:

Translation Aids between Different Systems of Knowledge and Interpretation \*\*\*  
Organizing Guest Lectures \*\*\* Different Concepts of Knowledge Transmission \*\*\*  
Visiting Schools \*\*\* Subject Integrale, Study Plan Integrale, Professorship for Integrative Science \*\*\*  
Tree of Science Makes Net of Knowledge Accessible \*\*\* Collaboration with Universities of Arts

#### Key factors

Knowing as knowledge \*\*\* Accepting different realities and transdisciplinarity \*\*\*  
Appreciation of and confidence in the action of the other and myself

#### *5.3.3.3. Stakeholder Group NPOs*

In 2010 there are continuous round tables between NGOs and science shops. Guaranteed financial autonomy of science shops imports as well as their independence in general.

There is much international and national networking between science shops and science shops promote networking between NGOs. Science shops help NGOs working on similar issues to exchange their experiences.

Knowing many different NGOs in different fields and how they work, science shops also promote the interdisciplinary development of models for NGOs.

Science shops could deal with research on trends of actual problems, create a pool, i. e.

they could actively perform research about relevant problems, not only as reaction to requests.

They will integrate the rural regions, where is no accumulation of researchers. NGOs are supported by science and research, not only by provided results themselves. Being investigated by researchers is public relations for a NGO.

### STEPS

searching for allies \*\*\* stronger public relations

### Key factors

Role as Translators \*\*\* Sufficient Ressources \*\*\* Networking, Contacts, Exchangement  
\*\*\* Public Relations \*\*\* Autonomy

#### *5.3.3.4. Stakeholder Group Science Shops*

In 2010 the science shops will possess

An adequate infrastructure: big enough offices, open work area with an open access library, a coffee shop, rooms for events or workshops, with internet infrastructure adequate personal equipment to cover as many fields of research as possible. Science shop teams should not be specialists, but generalists who can work transdisciplinarily. There will be a secretary, a computer administrator, an office for public relations. The hotline for associated services takes care of incoming requests which cannot be supported by research or academic consultation.

Adequate long-term funds on a national level. Additionally there is a fund for social compatible projects (like in Canada) where science shops can get means for participatory research projects.

Transfer done by science shops is estimated equally to other research fields in 2010. Impact is not defined only as number of publications, but working in a research project initiated by a science shop will be equally an important factor when institutes are evaluated.

Science shops will give certifications, references, quality papers for students having worked for them, f. e. For collaboration with NGOs in a social compatible research project.

Science shops will be essential partners of universities.



### STEPS are included in KEY FACTORS

Establishing science transfer and financed by long-term funds \*\*\* Support by politics, university, public \*\*\* Change in the quality criteria for science

#### *5.3.3.5. Thematic Group Support by Politics, Universities and Public*

They discussed ways which would make support by the following three groups possible:  
Politics: Because the support for science shops is not institutionalized, everything depends on the goodwill of single persons actually occupying relevant offices. The independence of science shops of political parties, can also cause them problems. Hence, more democracy is demanded and subvention for science that is autonomous and does not support a certain political party.

Public: They focussed on the NGOs, where they see much networking. Anyway competition can develop, if they can apply for the same funds. Cooperation mostly develops on a personal level and it is left to chance. More networking is demanded and and systematical exchange of information. More personal contacts among NGOs and with science shops should establish an atmosphere of mutual appreciation to alleviate situations of competition and optimize networking.

Universities: University members in the science shop's advisory boards should exercise their multiplier function more intensely. Universities might think of offering the science shop's services themselves - especially if considered it as profitable or as good PR. In that case they could get disinterested in giving to somebody else their know-how or the results of their research. Demanded is more mutual exchange. If political decision-makers should show a stronger commitment to science and research to give universities more scope for cooperation.

#### *5.3.3.6. Thematic Group Finances and Subventions*

Science shops obviously need more means for personal, infrastructure and rooms to meet the increasing demand. They discussed different means to improve the actual situation.

Present funding structures are advantageous for already well-funded and well-known organizations and disadvantageous for smaller ones. The resources for doing lobbying or making contacts for sponsoring are limited in science shops. Hence, these steps depend on the help of outsiders. For instance well-known scientists could play a role as mentors to give them better access to funding. Science shops cannot intensify their

promotion work or organize advertising campaigns, as their resources are completely absorbed by their daily work.

Science shops could also bundle their efforts on an national/international level. The European Commission could support them by encouraging national governments to support independent science shops in their countries.

#### *5.3.3.7. Thematic Group Networking*

There could be more cooperation with journalists to transport the results of their work. This would make it easier to make new contacts or to develop existing contacts, which would be useful for acquiring money. Science shops could also participate more often in information events like Science Week, carrier fairs, etc. They could get more contact to students or create “markets” for NGOs to learn to know each other. The vicious circle consists in the fact, that these activities to improve the situation only would be possible, if the science shops had enough time and money to perform them.

There could be more accurate research about the needs of universities and NGOs towards science shops. Perhaps they would desire a higher number of workshops and meetings for networking.

Science shops could install a NGO advisory board in addition to their scientific advisory boards, in which NGO members would meet and ask for research or consultations.

#### *5.3.3.8. Thematic Group A different kind of science & research*

Different existing cultural and living realities and different perspectives should be integrated into science and research to a higher extent, There should be more emphasis on ethical questions. Reality should be examined by transdisciplinary projects whenever possible.

The actual situation of science and research shows up many problems. Quality criteria consist almost exclusively in publishing as much as possible. This leads to strange phenomena: for instance that good contacts to journalists become important or the well-known Matthew Effect (a certain number of publications will automatically procure longer and longer publication lists, because other researchers ask the author to contribute their names without really participating to a project, because well-known names give better chances to place articles about their studies in journals)

Contemporary science is dominated by males. Women still have comparatively bad career chances. The mechanisms of systematical female exclusion is documented well.

University also seems to be a quite feudalistic system. This shows up in many details, for instance how professors chose their successors or how students writing master theses depend on the goodwill of a single person.

Demanded is improvement of quality standards. One possibility is research about science and research to evaluate the background of a project, which would have to be evaluated as well.

A NGO advisory board for evaluation could be installed. To avoid the risk of transmitting the actual problems of arbitrary decision making into a similar system with only different persons, it must be an elaborated model, where persons could be chosen per random sampling and rotation systems with proportionate of gender, age and ethnical representation. The model should promote team work instead of single „historical heroes” of research.

#### ***5.3.4. Comments and reflections from organizer***

Although there are differences in the presentations of the working groups some similar concepts or ideas appear, which are found more detailed in the summary and in the chapter below, EASW related Recommendations.

## **5.4. Reflections for Policy recommendations based on national experiences**

### ***5.4.1. State-of-the-Art Report related reflections and recommendations***

Make science shops known to influential players in the scientific community and to policy makers by measures such as

- establishing links between the International Science Shop Network and the European Science Foundation and similar organisations,
- the dissemination of the EU brochure on science shops to policy makers at all levels, science journalists and NGO representatives, and
- dedicating a chapter on the importance of low threshold access to expert advice for citizens for bringing science and society together and a knowledge-based society in a Communication or Working Paper of the European Commission.

Link science shop activities to other science and society-related activities, which involve active participation of citizens, such as risk communication.

A stable financial basis would increase the independency of science shops. To be in the

position to dedicate themselves to independent research, Science shops should not depend on one sponsor alone. It is to be determined, to which extent regional and national authorities and, if feasible, universities should cover science shops' infrastructure costs, to which extent science shops could be funded by European Structural Funds and to which extent sponsorships by private companies are available for science shops.

#### **5.4.2. Case studies related and reflections and recommendations**

Regarding the findings of the cases studies we come to the conclusion that following measurements could be reasonable:

Because work of intermediary institutions like science shops turned out highly beneficial to all parties in the examined cases, they should be supported to increase the number and the efficiency of cooperation projects between NGOs and researchers.

Opportunities to supply science shops with sufficient resources to meet the demand for the intermediation services of science shops are to be investigated. A severe lack of resources to meet the demands was observed.

The employees of the intermediation organizations should be scientific generalists to some degree. It was important that they were able to deal with requests concerning much more fields of research than their own and to handle interdisciplinary projects. They should have good contacts to researchers of different fields and/or good contacts to other intermediary organizations in other fields.

There could be some budget for reimbursing student researchers for expenses and incurred costs for printing and postage of questionnaires, transcriptions, traveling, etc. Although not-paid research independent from client is estimated as more immune against influence, students at least should not pay additionally for doing research in favor of NGOs.

PR for science shops should be supported. It was seen that the intermediary institutions had severe problems to make their service public, because their intermediation work promoted mainly researchers and requesting persons but their own work stayed invisible.

Some of the university departments should be stimulated to develop more understanding for the needs of students doing practical research for NGOs, which could make it possible to cover all research fields in all regions. A concept should be worked out, how

this could be achieved. It was seen that the collaboration with students depended on the goodwill of the relevant professors. Interests of the university can be a barrier. Science shops should be established as institutions independent from universities and not be a part of the system, but they should develop good connections to the different institutes. If requesting at science shops (or other intermediaries as far as the results will be open to everybody any case) means that a NGO can be considered as very open minded and confidential about its own work, this could be considered as a special form of quality assurance and taken into account, when funds are given to NGOs.

#### **5.4.3. EASW related reflections and recommendations**

The RTD system has to be more democratic, it should become more open-minded and accessible to civil society.

By offering access to expert knowledge, science shops counter its power effects and contribute to a democratisation of knowledge

Science shops should sustain the traditional concept of providing low cost research for not powerful parts of the public and acting as an intermediary between researchers and NGOs:

They are considered as important intermediaries between science and society. They are also important for redressing the shortcomings of the RTD-system, which impedes them.

Participants consider it as important that science shop are established as institutions who offer independent, impartial research services, i. e. they should stay autonomous.

To meet this objective, it is crucial to provide them a stable financial basis - long-term instead of short-term funding; infrastructure funding - similar to the one major Austrian research institutions have.

Science shops should work interdisciplinary, it is also their task to intermediate between different ways of thinking and living and integrate them. This concerns the different scientific communities as well as the situation between researchers and the public.

Science shops should promote and tie the "network of knowledge". Participants appreciated the generalistic, inter- and transdisciplinary research approach of science shops, which is generally lacking in other kinds of research. A studium integrale would facilitate an integrative view on knowledge.

More public relation, lobbying and networking is necessary than science shops can commit themselves to on present conditions.

Actual or desired science shop services were depicted as broader than the research services science shops usually only offer.

- Science shop services could encompass also networking activities between NGOs or their research services could include expert knowledge of administrative bodies.
- Science shops could offer additional research services. They could set up thematic Web sites and databases and do research on topics of interest to NGO's without request.
- They also could support international networking of NGO's working on similar fields. The International Science Shop Network could not only facilitate networking between actors from different spheres of society, but also within these spheres: among NGO's and researchers.

There have to be found different quality standards to promote intermediation, participatory research and democratic knowledge production for the civil society. The gratification system of the RTD system heavily relies on publications. This negatively effects science shops. Gratifications and measures for quality management for socially acceptable research are needed (f. e. an elaborated model for extended peer communities).

## **5.5. Produced reports and material**

### **INTERACTS Reports:**

Reimer, R., Strähle, M., Urban, Ch., Vienna EASW Report, 2003

Strähle, M., About this report, in: Fischer, C., Wallentin, A. (eds.), State-of-the-Art Report, 2002 (= INTERACTS Report No. 1), pp. 1ff.,  
<http://members.chello.at/wilawien/interacts/main.html>

Strähle, M., Executive Summary, in: Fischer, C., Wallentin, A. (eds.), State-of-the-Art Report, 2002 (= INTERACTS Report No. 1), pp. 4-5,  
<http://members.chello.at/wilawien/interacts/main.html>

Strähle, M., Fischer, C., Wallentin, A., Concluding Remarks, in: Fischer, C., Wallentin, A. (eds.), State-of-the-Art Report, 2002 (= INTERACTS Report No. 1), pp. 88-92,  
<http://members.chello.at/wilawien/interacts/main.html>

Strähle, M., Gnaiger, A., Schroffenegger, G., Country Report: Austria, in: Fischer, C., Wallentin, A. (eds.), State-of-the-Art Report, 2002 (= INTERACTS Report No. 1), pp. 47-64, <http://members.chello.at/wilawien/interacts/main.html>

Strähle, M., Rasmussen, S., On INTERACTS, included in all INTERACTS Case Studies Reports, 2003

Urban, Ch., Reimer, R., Case Studies Report, 2003

Other INTERACTS Publications and Materials:

Strähle, M., INTERACTS Newsletter No. 1, October 2002

Strähle, M. (designer, editor, Web master), INTERACTS Web site, <http://members.chello.at/wilawien/interacts/main.html>, October 2002

Strähle, M. (moderator), INTERACTS Mailing list „Pro-Activity“ (internal communication), <http://groups.yahoo.com/group/pro-activity/>

Strähle, M. (moderator), INTERACTS Mailing list „Interacts“ (external communication), <http://groups.yahoo.com/group/interacts/>

Strähle, M. (administrator), INTERACTS Common Workspace, <http://bscw.gmd.de>

Strähle, M., INTERACTS Press Information, October 2002

Strähle, M., INTERACTS NGO Information, October 2002

Strähle, M. (ed.), INTERACTS Interim Report, February/March 2003

Strähle, M., Invitation materials for the Vienna INTERACTS Scenario Workshop, Vienna 2003

Urban, Ch., Evaluation sheet for the Vienna INTERACTS Scenario Workshop, Vienna 2003

Urban, Ch., Reflections about the EASW Method

Urban, Ch. (host), INTERACTS Web site

**Other publications:**

Strähle, M., Sozialverträgliche Wissenschaftskulturen. Zum Beispiel Wissenschaftsläden. In: TRANS. Internet-Zeitschrift für Kulturwissenschaften 14/2002, <http://www.inst.at/trans/14Nr/straehle14.htm> (reference to INTERACTS)

**Conference presentations:**

Strähle, M., Presentation of INTERACTS. Conference European Research 2002, Brussels, November 11th-13th, 2002

Strähle, M., Presentation of INTERACTS. Conference Envisioning Scientific Citizenship: Science, Governance and Public Participation in Europe, Vienna, November 30th, 2002

Strähle, M., Sozialverträgliche Wissenschaftskulturen. Zum Beispiel Wissenschaftsläden. Conference The Contemporary of the Non-Contemporary, Vienna, December 6th-8th, 2002 (reference to INTERACTS)

Strähle, M., Presentation of INTERACTS, Vienna INTERACTS Scenario Workshop, June 12th, 2003

**References:**

see: references in Vienna's reports



## **Appendix 6: National Summary: Denmark**

### **6.1. National context (key points from SAR)**

#### **6.1.1. Background trends**

Four main laws outline the national policy in regard to research: the University Law, the Sector Research Law, the Law on Research Advice and the Law on Basic Research Fund. The University Law and the Law on Research Advice make provisions concerning the relationship between science and society. The University Law has recently been changed so that universities have boards with a majority of external members as the governing body. If the trend from external members in the University Senates is continued the external members will mostly be managers from private enterprises, state-owned enterprises and governmental institutions. The boards are said to be aiming at opening universities more towards society. The Law about Research Advice is the legal background for the Danish Council for Research Policy. Half of the members should be researchers. No specifications have been made about the remaining members, but they are primarily business managers. (Danish Ministry of Research and Information Technology:1997; Danish Ministry of Research and Information Technology: 1999; Danish Parliament).

There has been a major shift in the ruling principles in Danish research policy during the recent 20 years from research and science being a goal in themselves towards research having a central role in achieving political goals. Thus, research is nowadays to a greater extent seen as a mean to the achievement of goals. Most of the focus has been on the contribution of research to innovation and competitiveness of enterprises. These changes have taken place despite the fact that Denmark has a research policy, which points out the importance of developing the relationship between citizens and university researchers, in order to increase the citizens' interest in science and research. Documents describing Danish research policy points out that the democratic dialogue between universities and citizens is an important tool in the process of increasing the interest for science (Analyseinstitut for Forskning, 2000/9). Two recent changes initiated by the government are the formation of a think tank on citizens and research, which focuses on showing the citizens the achievements from research. At the same time the government has cancelled a number of research and development programmes within sustainable development, where civil society organisations could get funding. A programme within organic agriculture, where practitioners could get funding has also been cancelled.

The perception that research is a mean to achieving political goals has caused an increasing belief that research can be guided in the directions, which from a political view is perceived as desirable for societal development. This puts research under pressure, not only from politicians, but also by business organisations and civil society organisations (Analyseinstitut for Forskning, 2000/9). Businesses, business organisations and governmental institutions have easier access to research funding and to research facilities and thereby more opportunities to influence research. The influence of citizens and civil society organisations on research is nowadays mostly indirect, like trying to open public debates about problems and strategies they feel need more investigations.

### **6.1.2. Overview of Science Shops in Denmark**

The first science shop in Denmark was started at the Technical University of Denmark in 1985, triggered by the need for 'an open door' to the university for citizens, employees and their organisations to enable co-operation around knowledge needs experienced by these groups. Today there are three science shops at Danish universities, which have their primary focus on supporting co-operation between citizens, community organisations, NGO's and universities. Besides the Science Shop at the Technical University of Denmark, there are also this kind of science shop at Roskilde University (started in 1989) and at the Faculty of Social Sciences and the Faculty of Law at University of Copenhagen (started in 1992). These three science shops have established a network publishing a quarterly newsletter and exchanging project proposals, so that the proposals might be offered in more science shops. The primary clients of these science shops are community groups and NGO's within the social and environmental field. Some clients are staff and users of public institutions like schools, day-care centres etc. One of the science shops also has governmental institutions and enterprises as their clients.

The major part of the projects are carried out by students as part of their curricula, mostly as topics for thesis projects and other major projects during the curricula, where the students are supervised by researchers and teachers from the scientific relevant department. The students get credit points contributing to the fulfilment of the curricula requirements. At the same the students gain competence and experience with problem-based learning and co-operation with citizens.

It is free of costs to get a project carried out through the science shops. The universities finance the science shops by financing the science shop staff and the facilities of the

science shops. The major part of the resources for the science shop projects is the time, which the students and their supervisors contribute with. These resources are human resources, which are made available to citizens and their organisations through the science shops. The project mediation is managed by office staff and student assistants managing the project mediation.

## **6.2. Case studies**

### ***6.2.1. Criteria for case selection***

Two cases from the Science Shop at DTU and one case from the Science Shop at RUC were chosen to be the basis of the Danish Case Studies. The cases were chosen based on the general criteria set the Interacts case studies, and further on a criteria of being within the field of environmental studies, one of the two fields identified as being within Interacts interface.

The two environmental cases from the DTU Science Shop were carefully selected with respect to which kind of impact the cases had had on the clients, the involved researchers and the societal discourses. The case from the Science Shop at RUC was selected by the Science Shop at RUC and not the authors behind this report, based on instructions of the above-mentioned criteria. Impact of the RUC case was unknown to the authors before the research and interviews were made.

### ***6.2.2. Case 1: Co-operation between Danish Cyclist Foundation (DCF), DTU students and the Science Shop DTU***

The aim of the project was to analyse which motives bicyclists' have for using the bicycle as transportation mean. And based on this knowledge, to put forward recommendations to the Danish Cyclist Foundation (DCF) about how to motivate more people to use the bicycle instead of a car to cover their transportation need. The focus of the research was based on the need of the organisation, but the specific aim was defined in co-operation between the two students conducting the research and the organisation.

The aim was answered through an analysis of users of bicycles, politicians and traffic planners' perception and understanding of the bicycle as technology. One of the results the students came up with was surprising to the organisation, e.g. many bicyclists perceive other bicyclists in the traffic as the biggest problem, and not cars or busses, which the organisation previously had presumed. Due to this discovery the organisation initiated a campaign around bicycle behaviour.

### 6.2.2.1. Fact sheet

Danish report title: "Hvad er en cykel? – en socialkonstruktivistisk analyse af mulighederne for at fremme brugen af cyklen". Udarbejdet af Jan Luxenburger og Rune Asmussen. Juni 2000. Videnskabsbutik nr: 1996.009.

English report title: "What is a bicycle? – a social constructivist analysis of the possibilities of promoting the use of bicycles". Written by Jan Luxenburger and Rune Asmussen, June 2000. Science Shop number: 1996.009.

Request: Made by the NGO 'The Danish Cyclists Federation' (DCF) through the Science Shop at DTU.

Aim: To investigate how the use of bicycles can be promoted to become more attractive in the future.

Duration: From February 2000 to June 2000 (one semester, e.g. 13 weeks).

Students: Two M.Sc. in Engineering students at their 4<sup>th</sup> year.

Costs: No costs involved in the research.

#### Outcomes:

- Official report to DTU, the Science Shop and The Danish Cyclists Federation with the Danish report title stated above.
- CD Rom with the official report
- Article published in the NGO's newsletter 'Cyklisten' (in English the 'Cyclist') to its members about the results of the research. Title of the article: 'Hvad er den cykel?' (in English 'What is a bicycle?') by Ingrid E. Petersen. Edition 2000, number 5. DCF. The article was based on interviews with the two students.
- Article with the title 'Hvad er en cykel?' (in English 'What is a bicycle?') Published in the Journal 'Anvendt Viden' (in English 'Applied Knowledge') published by the Science Shops in Denmark. Number 4/December 2000.
- Agreement between the NGO and the students, about cooperation in connection with the student's research for their Master Thesis.

Working methodology: Literature review combined with semi-structured interviews (single and group interviews). Approach based on the Social Construction Of Technology (SCOT) methodology.

Interviews:

Level 1<sup>3</sup> interviewees: 2 students, 1 supervisor, 1 NGO representative and the DTU Science Shop manager

Level 2<sup>4</sup> interviewees: 1 NGO representative, DTU Science Shop manager and Head of Department of Manufacturing Engineering and Management, DTU.

**6.2.3. Case 2: Co-operation between the day care centre Vognporten, DTU students, a DTU researcher and the Science Shop DTU**

The aim of the project was partly to investigate storage possibilities of organic fruits and vegetables and partly to establish contact to a farmer, whom the day care centre could use as a visiting place, and at the same time buy their fruits and vegetables locally. The focus of the research was based on the need of the organisation, and the specific aim was defined in co-operation between the two students conducting the research and the organisation.

The aim was answered through a literature study of storage possibilities and through informal talks with the day care centre staff around needs and resources. The results of the students' investigation were that they recommended a so called earth igloo (a kind of basement under the ground) for storage of organic vegetables and fruits. Based upon the students' recommendation and investigation, the institution and the parents managed to have the municipality to fund the igloo. After finishing the investigation, the students developed two brochures based on their findings, this due to a wish to make their results more accessible and understandable for the institution.

*6.2.3.1. Fact sheet*

Danish report title: "Økologiske fødevarer i daginstitutionen Vognporten – med fokus på opbevaring og lokalforsyning af frugt og grønt." Udarbejdet af Susie Sinding Ebbesen og Katrine Ligaard Nielsen. Videnskabsbutik nr: 95.019.

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<sup>3</sup> Actors directly involved in the project

<sup>4</sup> Actors having a view on the policy implications of the activity

English report title: "Organic food in the day care centre Vognporten – with special focus on storage and local supply of fruits and vegetables". Written by Susie Ebbesen and Katrine Ligaard Nielsen. Science Shop number: 95.019.

Request: Made by the day care centre Vognporten through the Science Shop at DTU.

Aim: To investigate the possibilities of storage and local supply of organic fruits and vegetables to the day care centre Vognporten.

Duration: From February 1996 to June 1996 (one semester, e.g. 13 weeks)

Students: Two M.Sc. Engineering students in the middle of their studies.

Costs: No costs involved in the research.

Outcomes:

- Official report to DTU and the day care centre Vognporten with the Danish title as stated above.
- Article published in the local newspaper: "*Økologiske nøddeknækere*". Albertslund Posten. September 11, 1996.
- Two brochures produced by the students to the day care centre. One brochure regarding information on how to implement organic fruits and vegetables in day care centres and one brochure regarding storage of organic fruits and vegetables.

Working methodology: Literature review, and informal interviews with the leader of the institution and the kitchen assistant.

Publications:

"*Økologisk kost i Daginstitutionen – Ideer og gode råd til omlægning*" by Susie S. Ebbesen and Katrine L. Nielsen. (In English: "Organic diet in the day care centre – ideas and recommendations to how to reorganise to organic diet"). 1997.

"*Opbevaring af økologisk frugt og grønt*" by Susie S. Ebbesen and Katrine L. Nielsen. (In English: "Storage of organic fruits and vegetables"). 1997.

Follow up project: Development of the two brochures. This was not a part of the project, but something the students developed separately afterwards.

Interviews:

Level 1 interviewees: 1 student, the leader of the institution, 1 supervisor and the DTU Science Shop manager.

Level 2 interviewees: DTU Science Shop manager, 2 Eco-researchers, the Leader of the Children Department in the municipality, the chairman of the parents board for children and youth institutions in the municipality and Head of Department of Manufacturing Engineering and Management, DTU.

#### **6.2.4. Case 3: Co-operation between a local branch (Frederikssund) of the Danish Society for the Conservation of Nature, RUC students and the Science Shop RUC**

The aim of the project was to investigate the pollution level in village ponds in the municipality of Frederikssund and recommend how the village pond could be rehabilitated. The focus of the research was based on the need of the organisation, and the specific aim was defined in co-operation between the four students conducting the research and the organisation.

The research questions were answered by combining tests and water samples done in the village pond with figures for ideal conditions in a village pond. The outcome of the investigation was a scientific report, which the organisation handed over to the municipality. The municipality has taken no actions towards rehabilitating the village ponds, even though the report specified the village ponds were heavily polluted.

##### *6.2.4.1. Fact sheet*

Danish report title: "Biomanipulation i lavvandede, eutrofe søer – et studie af interaktioner i fødenettet og ligevægtstilstande" Udarbejdet af Tine Amhild, Jill Grenaae, Søren Olsen og Louise Aa. Zimmer. Videnskabsbutik nr: 97.43.

English report title: "Biomanipulation in shallow eutrophic lakes – a study of food web interactions and lake equilibria". Written by Tine Amhild, Jill Grenaae, Søren Olsen og Louise Aa. Zimmer. Videnskabsbutik nr: 97.43.

Request: made by a local committee of the NGO the Danish Society for the Conservation of Nature (DN) in Frederikssund through the Science Shop at Roskilde University Centre (RUC).

##### Research questions:

- Is it possible through biomanipulation to reach a sustainable situation of the water being clear in an eutrophic lake?

- Is it possible to reach a sustainable situation of clear water in Lille Rørbæk village pond through biomanipulation?

Duration: From February 2001 to June 2001 (One semester)

Students: Four M.Sc. Environmental biology students at their 4<sup>th</sup> semester.

Costs: The students' institute covered all cost in relation to the research. It has not been possible to gain knowledge about the budget for the project.

Outcomes:

- Official report to RUC and DN local committee in Frederikssund with the Danish and English report title started above.
- Newspaper articles in two local newspapers:
  - “Mulighed for et rent gadekær i Lille Rørbæk” (in English: “Possibility of a clean village pond in Lille Rørbæk”). Frederikssund Avis. September 11, 2001.
  - “Ingen plan for gadekær” (in English: “No plans for village pond”). Frederiksborg Amtsavis. September 14, 2001.
  - “En plan for Oppe Sundby gadekær” (in English: “Plans for Oppe Sundby village pond”). Frederiksborg Amtsavis. September 21, 2001.

Working methodology: Theoretical considerations about biomanipulation in shallow eutrophic lakes, and tests and water samples done in Lille Rørbæk village pond.

Interviews:

Level 1 interviewees: 3 students. 1 supervisor, RUC Science Shop manager and 1 NGO representative.

Level 2 interviewees: RUC Science Shop manager and Head quarter NGO representative (the co-ordinator for the local committees).

### **6.2.5. Impact and policy evaluation**

This short chapter summarizes some general topics with respect to the shaping of the role and impact of Science Shops, which have been identified through the three case studies, and some general policy recommendations are put forward based on ideas and perspectives developed through the case studies.

The three cases have shown NGO's with different knowledge needs and different expectations to the role of a Science Shop. One type of knowledge need is the need for



scientific documentation of a problem from an impartial institution. Two other types of needs are the need for enhancement of knowledge by the NGO about a topic, and a need for development of new perspectives on how a problem can be solved. The cases also indicate that university researchers perceive their role in knowledge production differently. One view is that university researchers and students are the producers of knowledge and civil society as receivers, another view is that knowledge production is understood as a common process between university people and civil society.

How the knowledge need is approached in the project is decided during the initial interaction between the NGO, the Science Shop, the students and the scientists acting as supervisors. Important aspects in this shaping of the project plan are the time frame of the students and the need to ensure enough scientific depth in the analyses by limiting the number of topics, which is addressed in the project. However, this limitation has not caused problems for the NGO's in the three cases. In some cases the reshaping is crucial in order to ensure enough scientific soundness for a supervisor to accept the project plan.

The interest of the students for engaging in a Science Shop project can be triggered by several factors according to the three cases. It can be a social oriented interest with focus on the possibility of working with real life problems and/or contributing to the societal change within a certain field. The interest of the scientist has been triggered either by the scientific interest or by the possibility of getting to know the capacity of students through this kind of project.

A Science Shop project can have impact on the topic the NGO is addressing, but it can also have impact on the students and the scientists. Research done through university structures are perceived by clients as impartial, and can be used in a political debate to create legitimacy. The ability of the NGO to obtain impact on the problem they want to address depends not only on the results of the project in terms of the knowledge produced during the project, but also on the possibility of the NGO to make alliances with other actors through those societal structures they already are part of. A scientific report from a university is not enough to secure impact. A report might also show a NGO some new aspects of the topic they are addressing. In all three cases the NGO's would not have been able to obtain the knowledge themselves by those economic means they had access to in their institution or organisation.

A Science Shop project can have impact on the students by developing competence, which helps them in getting a job after graduation or it can develop the scientific focus of the student and give new opportunities by developing closer working relations to the

supervisor. One of the cases shows that a Science Shop can contribute to research and curricula development at the university by acting as an incubator for a new scientific field. This role of a Science Shop, however, seems to demand scientific staff employed in the Science Shop. When a Science Shop contributes to the development of a new scientific field, new possibilities for interaction between the scientists within this field and the Science Shop seem to develop.

## **6. 3. Scenario workshop**

### **6.3.1. Basic reference data**

3 June 2003 a Danish scenario workshop was conducted with the aim of discussing: *How can Science Shops contribute to the development of the co-operation between citizens and universities?*

The scenario workshop was held as a one-day event, starting at 8.45 am to 5 pm. The scenario workshop took place at the Technical University of Denmark (DTU), and at our disposal we had four minor group rooms and one large plenary session room, all located on the same floor in the building.

The scenario workshop was planned and arranged by Michael Søgaard Jørgensen and Søsser Brodersen, Department of Manufacturing Engineering and Management, DTU and moderation was done by associate professor Morten Elle, Department of Civil Engineering, DTU and Søsser Brodersen.

Before, during and after the workshop the following material were handed over to the participants:

- A letter of invitation to the scenario workshop, consisting of a letter of invitation, a Interacts folder, and a folder explaining the concept of Science Shops
- Affirmative letter and map over DTU specifying the location of the scenario workshop
- Inspiration material
- Overheads
- Notes explaining the procedures of the Interest group and Theme group sessions
- The Danish scenario workshop Report

### **6.3.2. Participants**

22 participants participated in the Danish scenario workshop, divided in five different Interest groups:

- **NGOs:** Copenhagen Environmental-and Energy Office, Friends of the Earth Denmark, Green Guide/Local agenda 21 group, a day care centre.
- **Researchers:** Department of Civil Engineering (DTU), Department of Manufacturing Engineering and Management (DTU), Oersted (DTU), Department of Environment, Technology and Society (RUC<sup>5</sup>).
- **Students:** 2 students from RUC, 1 student from KU<sup>6</sup> and 2 students from DTU
- **Science Shops:** 3 representatives from Science Shop DTU, 1 representative from Science Shop KU and 1 representative from Science Shop RUC.
- **Policy makers:** Ministry of Science, Technology and Innovation, Department of Manufacturing Engineering and Management (DTU) and Pro-rector (RUC)

### **6.3.3. Presentation by organisers**

As an introduction to the scenario workshop Søsser Brodersen presented the Interacts research project and Michael Søgaard Jørgensen presented the present situation based upon the Inspiration paper we had sent out to the participant prior to the scenario workshop. The topics of the presentation were:

- National and international status of Science Shops, including international network between European Science Shops
- Types of knowledge need of community groups
- Tendencies within Danish university policy
- Students motives for conducting projects in co-operation with NGOs (based upon the experiences of the Danish Interacts case studies)

### **6.3.4. Workshop results**

#### *6.3.4.1. The five Interest groups' scenarios*

##### Science Shops:

The Science Shops perceived it as important that society (including universities) acknowledges civil society organisations' contribution to innovation and societal development, and that the Science Shops become an acknowledged part of the universities profile.

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<sup>5</sup> Roskilde University Centre

<sup>6</sup> Copenhagen University

University researchers:

The university researchers perceived elements such as knowledge sharing and research integration as important aspects to address. In relation to this, they wish the role of Science Shops is developed to become more outreaching in terms of identification and initiation of new research programmes.

University policy makers:

The university policy makers discussed the legitimacy of universities, and how co-operation with civil society organisations can become legitimate to address within the concept of the Open University.

Students:

The students' scenarios contained a wish of Science Shops being more visible and outreaching towards both university and society. They further identified a need for developing the procedures for Science Shops projects, in order to strengthen the dialogue between the involved partners and to ensure knowledge sharing.

Civil society organisations:

The civil society organisations emphasised the needs for more Science Shop research in basic societal topics. They emphasised the need for more democratic decision making processes.

*6.3.4.2. Four Theme group proposals*

Theme 1: The role of Science Shops:

The Science Shops more profiled through a national strategy and local strategies. Creation of a project-database serving two purposes: gather and share experiences and as inspiration for defining new projects. Attract researchers to co-operate with Science Shops by emphasising and increasing publication possibilities.

Theme 2: The Open University:

More focus on creating thematic network among NGO's, Science Shops, researchers and students. Collect international experiences about the strategic role of Science Shops and NGO's in order to legitimate research programmes with co-operation between citizens and universities.

Theme 3: Network and research integration:

Joint research projects between universities and NGO's, co-ordinated by Science Shops.

Theme 4: Knowledge and project processes:

Knowledge sharing and dialogue in focus throughout the whole project co-operation. Follow-up activities after a project co-operation have ended. Salary to clients for supervision.

The theme discussions were made in mixed groups, containing participants from each Interest group, when it was possible (due to an unequal amount of representatives in the Interest groups).

**6.3.5. Proposal for future actions**

The discussions in the Interest groups and the Theme groups identified many proposals which all can contribute to developing the co-operation between citizens and universities mediated by Science Shops. Since the aim of the scenario workshop was to identify and develop new ideas and perspectives in regards to the focal question, none of the proposals were ranked in regards to priority, nor was an action plan developed or responsibilities discussed. Below is a list of some of the ideas which developed through the scenario workshop:

- The scenario workshop ended with an agreement between the participants and the moderators about organising a follow-up meeting in October, with the aim of continuing the discussions of ideas and suggestions made during the scenario workshop. And to discuss the perspectives in creating a network between the participants.
- More systematic follow-up procedures to Science Shops projects are needed in order to identify and analyse influence and effects of the Science Shop projects some time after they are finished.
- Suggestion of client supervisor salary, if it is expected that clients are to spend more time on knowledge sharing and dialogue with the university throughout the project process.
- Clients want to be perceived as equal partners, and not as necessary partners'. There were a general perception among the clients that they often do not feel as equal partners in the co-operation between students and Science Shops.

- The Science Shops should act as project co-ordinator between NGO's and researchers. Joint research funding applications among Science Shops, researchers, and NGO's should be considered. This would avoid the partners to apply for the same funds individually.
- Not long ago, the Science Shop at KU conducted a campaign aimed at public institutions. A new project suggestion that Science Shops could launch themselves is an investigation of public institutions' needs for co-operation with Science Shops and universities.
- The Science Shops at KU, RUC and DTU should in co-operation develop a project manual describing the 'ideal project process', based on some of the experiences from the workshop and the Science Shops' previous experiences. This manual could function as a beginner for students and clients when a project co-operation is about to start and it could help the Science Shop staff to maintain common project procedures. The Science Shops has different materials in their offices, which could function as the basis for consideration of a common manual.
- The Science Shops should initiate communication courses/seminars in order to teach the students how to communicate scientific knowledge to non-academics.
- The Science Shops should create a database containing Science Shop publications. At DTU (on Campusnet) a project database is about to be created, and the Science Shop at DTU has been asked to contribute to the creation of the database.
- Creation of a network between the participants at the workshop. The Science Shop at DTU will organise a meeting in September, with the aim of informing the participants about the workshop experiences from the other Interacts partners, and discuss how to continue working with the suggestions proposed at the Danish workshop.

#### ***6.3.6. Implementation/dissemination***

The Science Shop at DTU will continue working with the proposals and ideas developed through the scenario workshop. The creation of a network between the participants is in the process of being established. In the fora many of the ideas and proposals developed through the scenario workshop will be further discussed and implemented if possible given participants and political support.

The results of the scenario workshop have been written in a Danish and English version. The Danish version has been sent to the participants, and will be the basis of the discussions at the follow-up meeting in October.

A national press conference is planned to take place in November, with the aim of disseminate the results of the Interacts project, and to create debate on how co-operation between citizens and universities can be developed and which role Science Shops can play in this development.

### **6.3.7. Comments or reflections from organiser**

#### *6.3.7.1. Differences and similarities of the participants scenarios and themes suggestions*

All the five Interest groups perceive prioritisation of businesses in university policy as barrier for civil society to contribute to societal development. The scenarios differs but they includes almost the same components, e.g. the Science Shops needs to be more visible, the Science Shops should be an integrated part of the universities profile and the Science Shops needs more allocation of resources if they are to mediate between civil society and universities.

The university policy makers though mention the aspect of legitimacy. They feel that by developing the citizens understanding and awareness for research and education, it will raise legitimacy at the universities to address citizens' needs, which again will cause more resources available for developing research and education to also reflect the needs and problems of citizens.

Through the identified themes the participants have discussed and reflected on different aspects of the citizens and university relationship. They discussed issues related to conducting projects through Science Shops, more general university and research strategies and the role of Science Shops as both oriented towards demand and supply.

The theme discussions did not seem as there were any counteracting perceptions among the participants, though two elements did cause a discussion among the participants. Theme group 2 raised the issue of Science Shop co-operations should be a mandatory part of students' curricula. Some of the participants feared that by making Science Shop co-operation mandatory, it will loose its flexibility and the engagement of the students, which are the main drivers for successful projects. Theme group 4 raised

the issue of supervisor salary to the civil society organisations co-operating with Science Shops and students. Also this aspects caused a discussion, some of the participants felt that since civil society organisations had a project carried out which they otherwise would not have been able to conduct, this should be perceived as their salary, whereas other participants felt that co-operation with students in some cases request more time and resources than they have to their disposal, and that a supervisor salary would ease their budgets and time available for these type of projects.

The element in theme 1 concerning openness could be integrated as an element in theme 3 discussing the Open University. Theme 3 and 4 assigns a more active role to the civil society organisations than theme 1 and 2, and tries to develop the role of civil society organisation in research and science policy at the universities.

In general it could be concluded that the elements in the strategies supplements each other and given the resources and acceptance, all the strategies could be implemented in synergy.

#### *6.3.7.2. Assessment of the Scenario Workshop Approach*

After having conducted the Danish scenario workshop we asked ourselves about the approach's usefulness when put into the Danish context related to research and science policy. *Did the scenario workshop mobilise its aim?* Our answer is maybe, but it is not to predict jet. But we say maybe, due to engaged and motivated discussions during the scenario workshop, and the interest of the participants in creating a network with the aim of continue working with how to develop the co-operation between citizens and universities and how the Science Shops can contribute to this development. A network, in which the participants prior to the scenario workshop had not felt a need for or had taken any initiatives to establish. Due to this interest we feel that through the scenario workshop the participants were mobilised to take actions, and they understand that changes has to come from within, if research and science policy are to reflect civil society and not only the interest of businesses.

Applying the scenario workshop approach requires long time planning. In our case we began planning the workshop 4 month before the workshop was conducted. But even though the approach is time consuming we feel the approach is recommendable, because it gave room for discussions both among people with the same interests and among people with other interests to consider. This room would be very difficult to obtain by applying other participatory approaches such as focus group discussions or interviews.



## 6.4. Policy recommendations based on national experiences

The following policy draft recommendations are developed on the basis of findings and views grounded in the Danish chapter in the Interacts State-of-the-Art Report (2001), the Interacts Danish Case Studies (2003) and the Interacts Danish Workshop Report (2003).

- **Civil society needs should be more incorporated into the university profiles**  
*(As an implicit way of counterbalancing the focus on businesses)*

The tendency within the Danish university research system is that universities focus towards businesses and their needs for research and science, and neglect civil society's needs and influence on research and science policy and to societal development. 'Real life' problems are not acknowledged by the universities (WP 3, WP5).

It is not perceived legitimate at the universities to address civil society problems or needs, due to the universities focus and prioritisation of research and curricula activities addressing the interests of businesses. As a consequence of the business orientation the universities have become a close institution for the general public, only opening up for dealing with societal problems if it is raised through the media (WP5).

The closeness if the universities towards society are also reflected in the knowledge production which happens at the universities. The representatives feel that there is no respect or acceptance towards a diverse knowledge production favouring all actors in society and not only businesses (WP5).

- **Science shops as a mandatory part of the Open Universities** *(Dilemma: bottom-up ⇔ top down policy?)*

University political goals are needed in order to promote the idea of the Open University. The goals should include reflections of how many projects the Science Shops are expected to initiate, which competences the students are to gain from a co-operation mediated through Science Shops, and considerations about if it is possible to gain these competences through other means than through a co-operation with Science Shops at the university. If the conclusion is that the competences can not be gain through other means that through co-operation with Science Shops, then it was the participants' perception, that co-operation mediated through the Science Shops should be made an mandatory part of the students studies (WP5).

The participants at the scenario workshop feel that businesses controls the Danish society and in particular research and innovation policy, which causes that the Science Shops have a weak position at the universities, and thereby not are allocated sufficient resources to mediate between civil society and universities or become more visible in the societal debate (WP5).

- **Local and national research grants and programmes with focus on community-university research co-operation. *(Should enable more research perspectives to be integrated in science shop projects)***

Societal problems should be acknowledged as important problems to address and include in educational activities. By including societal problems in the ordinary educational activities the universities will develop more co-relation between theory and praxis. The participants at the scenario workshop argued that the Science Shops should develop the research part in the projects, e.g. establish research programmes (PhD's) targeting the needs of civil society, like the Canadian CURA programme (WP5).

By integrating research perspectives in the Science Shop projects, the projects will become interesting for the scientists at the universities, and thereby it will be possible to establish co-operation between civil society, Science Shops, students and university researchers (WP5).

- **University curricula should include elements of civil society co-operation *(Could make future academia more oriented towards civil society)***

The participants at the scenario workshop find that much research at the universities is not about fundamental issues as a problem for the civil society. The NGO's needs which are not fulfilled are need for new knowledge and methods to address fundamental societal issues, a need for more manpower and opportunities for action addressing fundamental issues. Science Shops tries to address these problems, but due to lack of resources and acceptance at the universities, they are not capable to fulfil all the civil society's needs (WP5).

- **Local university criteria for research assessment should include civil society co-operation and relevance *(As addition to today's major focus on mainly scientific articles and patents)***

The participants at the scenario workshop, perceived that there is a need for more research integration in the Science Shop projects, and more focus on civil society operation based upon their needs for science and research. In order to obtain this university research assessment will have to include criteria for civil society operation and

relevance. Recently some Departments at DTU have raised a demand for articles based upon mediation orientation, as a supplement to scientific articles.

## 6.5. Produced reports and material

### Reports and papers produced:

Brodersen, S. & Jørgensen, M. S. (2003): *Hvad er Videnskabsbutikker?*. (A brochure explaining about the concept of Science Shops). April 2003.

Brodersen, S. & Jørgensen, M. S. (2003): *Inspirations materiale*. (Inspiration paper). May 2003.

Brodersen, S. & Jørgensen, M. S. (2003): *Interacts Scenario Workshop brochure: Hvordan kan Videnskabsbutikker bidrage til udvikling af samarbejdet mellem Borgere og Universiteter?*. Invitation til scenario workshop. April 2003.

Brodersen, S. & Jørgensen, M. S. (2003): *Scenario workshop resultater – uarbejdet på baggrund af Interacts scenario workshop 3. juni 2003*. IPL. DTU.

Brodersen, S. & Jørgensen, M. S. (2003): *The Danish National Case Study Report-Improving interaction between NGO's, Universities and Science Shops: Experiences and Expectations*. January 2003. Interacts. Contact No. HPV1-CT-2001-60039.

Brodersen, S. & Jørgensen, M. S. (2003): *The Danish Scenario Workshop Report - Improving interaction between NGO's, Universities and Science Shops: Experiences and Expectations*. August 2003. Interacts. Contact No. HPV1-CT-2001-60039.

Christensen, T. H. & Jørgensen, M. S. (2002): *State-of-the-Art Report – Improving Interaction between NGO's, Science Shops and Universities: Experiences and Expectations*. Edited by Fischer & Wallentin. The Danish Country Description. June 2002. Contact no. HPV1-CT-2001-60039.

Leydesdorff, L. & Ward, J. (2003): *Communication of Science Shop Mediation: A Kaleidoscope of university-Society Relations*. September 2003. Interacts. Contact No. HPV1-CT-2001-60039.

### Oral presentations:

3. June 2003: The Danish scenario workshop: *Presentation of Interacts and national context*. By Michael Søgaard Jørgensen and Søsser Brodersen.

10. September 2003: Area meeting (Innovation and sustainability) at Department of Manufacturing Engineering and Management, DTU: *Update on the Interacts research project*. By Søsser Brodersen and Michael Søgaard Jørgensen.

**References:**

Analyseinstitut for Forskning, 2000/9: *Dansk forskningspolitik: Organisation, virkemidler og indsatsområder*. Analyseinstituttet for Forskning. Århus

Danish Ministry of Research and Information Technology (1997): *Bekendtgørelse om lov om forskningsrådgiving*. (Order about the law research advise). 1997.

Danish Ministry of Research and Information Technology (1999): *Bekendtgørelse om universitetsloven 22 December 1999*. (Order about the university law 22 December 1999). 1999.

Danish Parliament: *Political agreement on principles for research in Denmark*.

## Appendix 7: National Summary: Germany

### 7.1. National context

#### 7.1.1. Background trends

*This chapter is based on the State-of-the-art report 2002, pp. 32-35, 37-39, 41, 44.*

##### 7.1.1.1. Discourse on science and society

In Germany, the discourse on the interrelation between science and society is closely connected to the concept of the 'knowledge-based society'. The gap between highly-specialised science-elite and the lay public has been widening. In order to keep up a democratic system of well-informed citizens whose power of judgement and decision is based on knowledge (as important means of production and factor of power), knowledge transfer from science to society is more urgently needed than ever. Additionally literature dealing with interaction between science and civil society/ NGOs is missing. The strands of discourse take different directions:

- A first strand of discourse on the necessary interaction between science and society defines "society" as the public in general and examines public understanding of science and science communication, for example through science journalism.
- The second and dominant strand of discussion on the knowledge-based society picks up the interaction between science and business as a central point of interest. Here, the process of knowledge production in modern society is described as decentralised: traditional science institutions have to share the status the most important producers of knowledge with business.
- Also the third and most recent discussion on ethical responsibility of science is connected to this discourse about the concept of the knowledge-based society and the spoilt relationship between a highly-specialised science and the lay public.

##### 7.1.1.2. Political framework and trends

The goal to promote knowledge transfer can be interpreted in different ways, policymakers in Germany almost without exception associate it with supporting *business* exclusively. Two political parties, the Christian Democrats and the Green Party explicitly mention the issue 'dialogue between science and society' in their programmes.

In Germany, an intensive debate on the university system has been going on for some years. The focus of this debate is international competitiveness. This regulative idea is

associated with streamlining the careers of young academics, with standardising and modularising studies, with introducing stricter standards, and with internationally harmonising academic degrees.

#### 7.1.1.3. Funding regulation and networking

- As a university-based Science Shop, 'kubus' is funded by the Technical University Berlin.
- The non-university-based Science Shop 'WiLa Bonn' relies heavily on its strong activities in job support.
- Co-operation-offices that focus on the co-operation between universities and trade unions finance their projects partially or totally by trade-union branches or by the "Hans-Böckler-Foundation".
- The Science Shop Network Germany, called AWILA (Arbeitsgemeinschaft der Wissenschaftsläden) is hosted in Bonn (<http://www.wilabonn.de/awila.htm>).
- The *federal government* can pursue its goals via funding programmes, competitions and prizes, or by enhancing communication via conferences or publications. Federal government and *Länder* each host a number of non-university research institutions and are free to potentially host Science Shops.

#### 7.1.1.4. The NGO society as potential clients

The NGO society in Germany is defined as a group of organisations that are organisationally independent from the state, non-profit orientated, self-governed and relying on voluntary activism. In the year 1990, there were 286,000 societies ("Vereine") in Germany, 474 per 100,000 inhabitants.

The issue of the interrelation between science and civil society like NGOs must be introduced first. Science Shops aim to bridge the gap between elitistic knowledge-producers (i.e. science) and the public/ society (i.e. NGOs) by supporting co-operation between science and NGOs. Examining the NGOs interests in and attitudes towards a possible co-operation with science, the studies sometimes find intensive feeling of distance towards science on the part of the NGOs. Additionally the gap is due to scientists who dodge the social responsibility of science and due to citizens and NGOs who don't consider science as something which might be useful for them. But NGOs' suspicion of universities can be worked on successfully by Science Shops' support, while thinking in terms of a two-way communication, being more active in networking while using and extending existing contacts to different local actors in politics, the NGOs society and business and connect them to science. A possible future approach is to

initiate co-operations and networks on the local level, e.g. as a project of the 'Local Agenda 21'-movement.

#### *7.1.1.5. Institutional framework*

In a comparison of 8 industrialised countries, the German third sector is of medium size in terms of paid labour, and among the last in terms of volunteer activity. But when it comes to membership in organisations, Germany is the second strongest country after Sweden. The peace, women's, and environmental movements founded lots of alternative cultural centres, self-help groups and political initiatives. The New Social Movements also laid the foundations for co-operation with science, founding their own independent research institutes like the "Institute of Applied Ecology" or the „Independent Institute for Environmental Questions“ (“Unabhängiges Institut für Umweltfragen”, UfU), founded in 1990 in the former German Democratic Republic. Also, the idea of Science Shops stems from here. This development coincided with a greater professionalisation of the NGOs in general. Today, the big national NGOs have their own scientific resources or research institutions or expect scientific support for their work by specific environmental research institutions (Berlin).

In Germany, the research landscape is characterised by its federal system. The most research and education policy falls within the responsibility of the 16 *Länder*. They have their own ministries for science and education, create the legislation pertaining to universities, fund them, and launch science policy programmes.

#### **7.1.2. Overview of Science Shops in Germany**

*This chapter is based on the State-of-the-art report 2002, pp. 36 - 37.*

Science Shops in Germany started in the 1980s. In 1985, a number of 15-25 Science Shops have been mentioned. Nowadays, the number has boiled down to about 10-15 (it is not always quite clear whether they are still active), mostly independent once.

*Kubus (Co-operation and Consulting for Environmental Questions)* founded in 1986 as a pilot project, since 1990 is a university-based Science Shop, completely integrated in the Technical University Berlin. It is part of the *Centre for Co-operation – ZEK*, which is not attached to a specific faculty, but a service institution on the university level. *Kubus* co-operates with environmental NGOs, communal institutions and organisations representing SMEs in the region of Berlin and Brandenburg.

Another well-known non-university-based Science Shop is the *WiLa Bonn* (<http://wilabonn.de>). The *Science Shop Bonn* was founded in May 1984. It is a non-profit and self-administrated institution. *WiLa Bonn* is not linked to the University of Bonn, but there are contacts with scientific experts of different institutions all over Germany.

The AWILA (Arbeitsgemeinschaft der Wissenschaftsläden) exists as a more or less active German network of Science Shops (<http://www.wilabonn.de/awila.htm>).

There are numerous other institutions and enterprises doing research and consultation in environmental issues and supporting the NGOs. These non-university institutions are quite similar to Science Shops. For example, in Berlin, there are five of these institutions only for soil-, air- and water analysis. Furthermore, there are a number of co-operation-offices that focus on the co-operation between universities and trade unions or between science and the working world respectively. In 2001, there were 18 of them. Though their target group is narrower, their tasks are quite similar to the Science Shops'. They try to introduce work-related topics into university studies, organise internships for students, collect research questions related to workers' issues and find scientists to work on them, make use of the universities' resources for workers' education, and organise public conferences and discussions.

## 7.2. German Case-studies

### 7.2.1. Criteria for case selection

*Compare the German Case-studies report 2003, chapter 1.2, p. 8.*

The chosen cases are completed projects with co-operating actors and reflect the wide range of topics and demands (counselling, networking, research, moderation, project development, personal transfer, organisational services, PR activities etc.), covered by as well NGOs as Science Shops in Germany.

**The case 1** (project carried out by *kubus*) was chosen, because it was a large project which got wide public attention and which included many co-operating actors. Additionally it exemplifies a characteristic Science Shop research project, i.e. NGO-members contacted *kubus* with a request on a scientific question.

**The case 2** (project carried out by *kubus*) was chosen because it shows a different aspect of Science Shop projects. Here the project was initiated by the Science Shop, but conducted in close co-operation with NGO members and researchers.



**The case 3** (project carried out by *WiLa Bonn*) was chosen because it reflects well the general situation of NGOs related to knowledge transfer in Germany. Additionally the institutional difference and project organisation aspects of *kubus* (university-based) and *WiLa Bonn* (non-university-based) seemed to be of interest.

All the three cases focus on environmental project goals.

### **7.2.2. Case 1: Tiergarten – Tunnel**

*Compare the German Case-studies report 2003, chapter 3.1, pp. 13 - 20*

After the German reunification a lot of huge constructions activities were planned or activated again and are partially still carried out in Berlin, the new capital of Germany. One of the biggest projects is the so called '*Tiergarten – Tunnel*', a system of tunnels for railway and motorway use under the largest public park '*Tiergarten*'.

Because of the estimated social and environmental impacts of the project an umbrella organisation of different action groups named '*Anti-Tunnel GmbH (ATG)*' was founded in March 1994. According to the German '*Federal Nature Conservation Law*<sup>7</sup> Non Governmental Organisations, which are specifically recognised by the administration, are allowed as well as requested to report about construction plans, which could affect the natural environment. Respective statements are considered by the responsible departments of the administration. In 1994 *ATG* contacted *kubus* to find experts and expertise to develop a research report that could be used as an expert-report in the legal case against the tunnel project. For different reasons the planning and construction process of the tunnel couldn't be stopped by the pressure of NGOs.

The reasons were the politically motivated top-down decision-making of high ranking Berlin politicians, the dominating influence of the construction lobby as well as the decision of the court, that the evidence for the environmental risk of the tunnel construction was not strong enough to stop the tunnel. The key findings of the research were unexpected. In sum they showed, that from an ecological perspective the tunnel-project is not as problematic as the NGOs had expected (even though there are still critical points that have not been investigated, like the problem of soil contamination during the building process). Still, some of the results brought up new perspectives, especially concerning the groundwater management. Additionally there were some interesting results about alternative solutions.

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<sup>7</sup> Cf. § 29 of the German Bundesnaturschutzgesetz.

### 7.2.2.1. Project fact sheet

National title of the report: 'Tiergarten Tunnel. Erarbeitung einer Stellungnahme zum Bauvorhaben Tiergartentunnel Berlin.'

English title of the report: 'Tiergarten Tunnel. Development of an expertise about the planned construction of the Tiergarten - Tunnel Berlin'. (Explanation: 'Tiergarten' is the largest park located in the centre of Berlin.)

Request and aim: The NGO *Anti-Tunnel GmbH* wanted to stop the tunnel project, underneath the largest public park in Berlin, planned by the city government and administration of Berlin, because they suspected serious environmental risks for the park 'Tiergarten'. Also, the NGO rated the tunnel as a 'prestige'-project, which would seriously debit the public budget. The estimated costs for the tunnel project were 2.5 Billion Euros.

The NGO *Anti-Tunnel GmbH* planned to prepare environmental impact reports to proof the bad environmental impacts of the tunnel project, and bring up counter-charges before court. Since the NGO had little financial resources, it was not able to commission private research institutes to provide the reports.

Duration: The *Anti-Tunnel GmbH* was founded in March 1994. Shortly after that the contact to *kubus* was made. The *court case* took place in July 1994, but the counter-reports were not considered as critical enough to stop the construction of the tunnel. The *court case* can be seen as the goal and the ending of this stage of co-operation within this project. The tunnel is still in the process of being build. The costs will most likely exceed the estimated sum.

Students: There were about 20 *research assistants/ experts* from different *institutes of the Technical University Berlin* involved in the project. 4-5 of these did the project work, the others played advising roles.

Costs: The *Stiftung Naturschutz Berlin* (Foundation for the Conservation of Nature Berlin) financed the research with about 12,500 Euro. *Kubus* did not get extra funding. The staff and the infrastructure was financed by the *Technical University Berlin*. The NGOs were mainly based on voluntary work. One position in the co-ordination office of the *ATG* was available on a job creation scheme.

Outcomes: It was at least a little success, that at the end there was a wide criticism against the tunnel and that the planning process got slowed down by project work: there

were 19.000 objections passed in. That was the greatest number of objections in any such planning process ever in Berlin.

Positive effects on research topics are restricted to the fields of the vitality of trees, different aspects of hydrology and soil science, and some aspects of environmental psychology. Within these fields further studies have been done at the *TU Berlin* mostly in close co-operation with NGOs as well as the *Department for Gardening and Nature Conservation* of the Berlin district of Tiergarten (since 2001 called district of Mitte). Recent projects are carried out along the banks of canals and other water bodies within or close to the Tiergarten Park.

There was quite a lot of communication with the media. There were reports in the newspapers and in the news on TV and in the radio about the project.

The results were used for different purposes:

- Mainly for the expert reports for the law suit against the tunnel.
- Some of the results were used for public relations of the NGO (media coverage).
- The results got presented to the municipality.

In the follow up the results were used for:

- Two expert forums organised in 1995. Experts, NGOs and the general public were invited to get informed about the project and to discuss the results.
- The counselling for further research about environmental impacts of the open air party 'Love Parade' on the ecosystem of the Tiergarten.

Working methodology: *Kubus* functioned as the intermediary and co-ordinator and facilitated various meetings in their rooms, especially at the beginning of the project. The meetings were thoroughly prepared by the *kubus* staff. They always prepared a clear time schedule, cleared the expectations of the meeting and moderated the process. The participants were generally very content about the outcomes of these meetings. For structuring these meetings conventional methods were used, like moderation, metaplan-technique, visualisation, agenda, time schedule, brainstorming.

It was agreed that case-studies would focus on the three main actors: NGOs, researchers and Science Shops and that six interviews per case would be helpful. Three with *actors directly involved in the project (Level 1)* and three with *actors having a view on the policy implications of the activity (Level 2)*. But in practice on one hand it was very difficult to find appropriate interviewees. On the other hand some of the interviewees were able to represent as well Level 1 as Level 2.

Interviews:

- *Anti Tunnel GmbH, NGO.*  
Interview partner: one of the active initiators and co-ordinators of the *NGO.*  
*Level 1+2.*
- *kubus, Science Shop of the Technical University Berlin.*  
Interview partner: *Researcher* at the Science Shop, who was responsible for this project.  
*Level 1+2.*
- Different researchers of the Technical University Berlin.  
Interview partner: *Researcher* at the Institute of Biology and Ecology, TU Berlin.  
Level 1.

### **7.2.3. Case 2: Creative Committee**

*Compare the German Case-studies report 2003, chapter 3.2, pp. 28 – 29, 31, 33 – 35, 38.*

Three workshops offered the opportunity to ‘get to know each other’. The workshops had different topics (- Visions of successful and effective Co-operation, - Communication, - Conflict Management; - plus one additional workshop to discuss the outlook took place).

A team was founded to organise a yearly ecological open-air-festival of environmental activists (‘Öko-Fete’), The ‘*Naturschutzbund Deutschland*’ (Association of Nature Conservation of Germany - NABU) a large German association for environmental preservation, offered counselling for projects and groups dealing with environmental protection (concerning project proposals). A working group ‘*Kompetenz-Datei*’ was founded to build up a data file on competencies to collect all addresses of experts or consulting services for different aspects of environmental and ecological matters in the Berlin/ Brandenburg area.

About 60 participants attended the first workshop and the second, third, and fourth one were each attended by about 40 participants. The participants were members of big, medium and small NGOs or civic action groups. From the bigger NGOs, only ‘basis-members’ were present, from the smaller ones, chairpersons as well.

From the participants’ perspective (apart from the first workshop, which was seen quite controversial), the workshops were assessed positively.

#### *7.2.3.1. Project fact sheet*

National and English title of the report: *Kreativkomitee (KREKO) – Creative Committee*

### Request and aim:

The aims of the project can be summarised as follows:

- problems within and between NGOs, environmental groups and environmental associations are addressed and internal communication and co-operation is improved
- anew activists are won
- new forms of workshops and discussions for NGOs, environmental groups and environmental associations are established
- the “we-feeling” amongst the activists is revived
- to take pleasure in environmental-political engagement is promoted
- environmental - political influence is enforced.

Duration: March 1997 (beginning of preparation) – March 1998 (finishing documentation). There were 3 workshops taking place between November 1997 and January 1998, and an extra one in February 1998.

Students: A student of the psychology department of the TU Berlin was member of the committee and permanently involved in all stages of the project.

Costs: The *Stiftung Naturschutz Berlin* (Berlin Foundation for the Conservation of Nature Berlin) financed the project with 3,000 EURO. The money was mainly spent on contracts for services for three members of *KREKO* (workshop moderation and public relation) and on the documentation of the project (design and print). In addition *kubus* and the *BLN* were involved with own resources.

### Outcomes:

- The project, the workshops and the results are published as a *kubus*-project-publication, which is available at *kubus* (<http://www.tu-berlin.de/zek/kubus/>). Moreover the resonance in the print-media was high, so there were a lot of articles in the Berlin newspapers, which are collected in the *kubus*-report as well.
- Additionally the results were used as a case study for a research publication.
- Apart from a formal publication, the results informally were carried out into the scene, e.g. via the Öko-Fete.
- A personal insight of a project responsible was, better to participate in workshops/ larger meetings with external moderation than on those without. Another insight was related to the role of *kubus* as an intermediary or ‘pulse generator’: to take over this role properly it is, important to acquire people with different backgrounds to enhance the probability that interested participants take over the project, so that *kubus* can draw back after a while.

- Apart from the publication there was no direct usage for the *TUB*.
- The *BLN* uses the documentation as a part of information to present their work.
- There has been no subsequent project with the research network 'Public Health', but out of *KREKO*, a stronger co-operation with the *department of Environmental Psychology at the TUB* has been established.
- The project impacts are: Networking and acquisition of new contacts and co-operations; new working methods are integrated (professional moderation); learning effects about the role of Science Shops: performing knowledge transfer, networking, information management in order to empower NGOs.

Working methodology: After the foundation of *KREKO*, the committee started to meet regularly (weekly or fortnightly) from March 1997 until the end of the project (February/ March 1998). The 'project negotiations' took place during these meetings. The committee negotiated how the workshops should be organised, which topics should be in focus, which workshop-methods should be used, how much money would be needed and how the funding could be realised. Additionally it was negotiated which members of the committee would be paid for the work and which ones not. Also this case-study was focused on the three main actors: NGO, researchers and Science Shop but concerning the interviews only members from Level 2 were interested in the research issue.

Interviews:

- *Berliner Landesarbeitsgemeinschaft Naturschutz* (Berlin Working Group on Nature Conservation - BLN), NGO.  
Interview partner: Chairman of the NGO.
- *Kubus* (Co-operation and Consulting for Environmental Questions), Science Shop of the Technical University Berlin.  
Interview partner: Researcher at the Science Shop, who was responsible for this project.
- Two *Researchers* of the Technical University Berlin (TUB).  
Interview partner: Researcher at the *Institute of Public Health*, TU Berlin.

*All interviewees were from Level 2. No workshop participants were interviewed, but the workshop organisers and moderators.*

#### **7.2.4. Case 3: Foundations for Environmental Protection and Local Agenda**

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*Compare the German Case-studies report 2003, chapter 3.3, pp. 56, 59 – 63.*

Over years the Science Shop Bonn has been offering seminars on the topic 'Project funding by foundations'. There already was a network of foundations and interested persons. Additionally there were regular requests on information concerning foundations in the field environmental protection and Local Agenda 21. It became clear, that there was not only an interest in how to get financial support by foundations, but in the question how to found a foundation as well.

So the idea came up to design a project on this topic and to apply for financial support at the Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit. As a member of the ministry had taken part in one or two seminars of the Science Shop on the topic, a helpful contact had been established. The project was initiated, planned and conducted by the Science Shop Bonn.

The Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit was interested in the topic as well: the ministry can point out other opportunities for funding to persons or initiatives that applied for funding from the ministry and that were refused.

The participants were content as well, not only because of the positive side effect, that a network of contacts between interested groups and the foundations involved in the project was established because of the indirect intermediary work of the Science Shop. As mentioned before networking was one of the project-aims.

#### *7.2.4.1. Project fact sheet*

National title of the report: Stiftungen für Umweltschutz und Lokale Agenda 21

English title of the report: Foundations for Environmental Protection and Local Agenda 21

Request and aim: The main aim of the project was to create modules for a Germany-wide information-, co-operation- and development-network dealing with foundations in the field 'Environment and Local Agenda 21'. To reach this wider aim, the project consisted of five sub-aims or modules:

- To write and publish a compendium that gives an overview on the foundations in Germany that (financially) support groups and initiatives in the field environmental protection and Local Agenda 21
- To establish a network of initiatives that want to build up a foundation, so that they can support each other and can be supported by the Science Shop (incl. a platform in the internet)

- To conduct workshops on 'founding a foundation' offered for initiatives that want to build up a foundation
- To offer a conference 'Foundations as Motors of the Local Agenda 21', where smaller and bigger foundations were presented
- To write and publish the documentation of the conference as a textbook on 'Foundations as project-agents for sustainability'.

Duration: The project started in October 2000 and was finished in July 2002. The main working year was 2001. This period of time was defined by the duration of the funding.

Students: There were no students involved, because this project was initiated and conducted without any usage to a university.

Costs: The project budget amounted to about 120,000 EURO, which was mainly financed by the Umweltbundesamt (*UBA*, Federal Environmental Agency), in arrangement with the Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (*BMU*, Federal Environmental Ministry). The Science Shop took over about 10% of the sum.

Outcomes:

- Two workshops and a conference took place.
- A textbook and a compendium on existing foundations and the founding of foundations were published, which are sold successfully; these books are unique in Germany as there are no other comparable publications in this field.
- Articles on the project and the publications in the newsletter of the Science Shop (*WiLa inform*) and another Science-Shop publication (*Arbeitsmarkt Umweltschutz/ Job Market Environmental Protection*).
- There are more requests at the Science Shop by groups and initiatives concerning foundations that could financially support them or concerning consulting on founding of foundations than before.
- The Science Shop Bonn got well known as a relevant "information-junction" concerning foundations in Germany.
- There will be a follow-up-project, financed by the Bundesamt für Umwelt, Naturschutz und Reaktorsicherheit (*BMU, Federal Environmental Ministry*) as well, with the focus on the attendance and consulting of initiatives that want to found a foundation.

The project was very useful for the NGO, in order to build up a long-term funding-strategy. As they don't get (enough) money from the municipality, they plan to found an



agenda-foundation, to live from the interests of the foundation-capital. But the crucial point is of course to organise the foundation-capital. So on the one hand, the Förderverein needs engaged members, who carry this process and on the other they need support from outside.

The Science Shop can play an important role in this process: the networking with foundations and other initiatives that plan to found a foundation is very valuable, the follow-up-project to exchange experiences and to profit from the knowledge of others is another valuable aspect. But the problem here is, that the Science Shop is in Bonn, so regular meetings are a problem, as he couldn't pay the travelling expenses by himself. For the Science Shop the results/ the publications are used to work out a serious standing and to become known as reliable experts in the field. The published books are the most comprehensive ones in this special field in Germany so far. With this background, the Science Shop can help groups or persons to find possibilities of funding and/or to consult how to found a foundation by themselves. Moreover the results are valuable information- and contact-sources for the own project-development and -funding, as the contacts with foundations, which were presented in the compendium and that participated in the conference, as well as the contacts with other funding-institutions.

Working methodology: The project was co-operative in the way that the Science Shop hired experts whenever it was necessary, made the contacts to foundations and the ministry and invited interested persons, initiatives and NGOs, but these weren't involved in the initiation or planning of the project. As there were already contacts to persons and groups that were interested in the topic, the participants were personally invited by the Science Shop.

#### Interviews:

- *Förderverein Lokale Agenda 21 Treptow – Köpenick/ Arbeitsloseninitiative - Innovations- und Ideenbörse*  
Interview partner: one of the voluntary members of the NGO, who took part in the workshops. Level 1 + one of the chairmen: Level 2.
- *Fundraising Akademy Frankfurt/Main*  
Interview partner: Lecturer at the second workshop. Level 1.
- *Wissenschaftsladen (WiLa) Bonn, Science Shop in Bonn;*  
Interview partner: researcher at the Science Shop, who was responsible for this project (chairman of the association, managing co-ordination). Level 2.

## **7.2.5. Impact and policy evaluation**

*Compare the German Case-studies report 2003, chapter 4, pp. 78 – 82.*

### *7.2.5.1. Project impact case studies*

Some of the *kubus* projects make a valuable contribution to the provision of practical experiences for students, because of the mediation of diploma-theses and the involvement of students in their projects. So, for example, students have the possibility to gather experiences concerning the moderation of workshops and meetings. According to a university professor a crucial competency, that is not covered by the regular curriculum.

Another aspect here is the transdisciplinary teamwork in the cases 1 and 2. In the knowledge based society, research and other societal systems – like environmental policy – become closer and more inter-linked. Transdisciplinary research is a resulting need. Science Shops have a great potential for the mediation between theory and practice, especially a university-based one like *kubus*. The Science Shop *kubus* made a step towards transdisciplinary work by assembling transdisciplinary teams. This could be the beginning of a transdisciplinary knowledge-production and appliance.

Concerning the institutional impact, for the Science Shop *kubus*, which is a university institution, the impacts cannot be regarded as being very high. As the interviewee on the policy level reported (refer to case 1 and 2), the university is more interested in big projects with a high amount of third-party-volume and in contacts with big companies or other relevant institutions, than in small NGO-related projects. As the Science Shop Bonn doesn't co-operate much with universities, no impact on the university level was expected from this project (case 3). The fact that the results could be used to become known as experts, to build up networks with foundations, to use the contacts to get funding by foundations and other institutions for other projects of the Science Shop of course strengthens the Science Shop. It is likely that new follow-up projects will come up. Last but not least, the Science Shop Bonn plans to found a foundation in the long run by themselves, so they can profit from the knowledge in this respect as well.

As was shown before, NGOs see a great potential in the existence of Science Shops in general and already benefit from these institutions. But that potential should be used to a greater extend by a lively exchange between the two partners.

### *7.2.5.2. Policy recommendations and implications*

The results of the case-studies made clear, that Science Shops are valuable, but still rare and little-known institutions, that can contribute to the establishment of the civil

society by making the potential of scientific knowledge available for citizens, NGOs and initiatives.

In case study 2 the question was raised, if researchers can take over the Science Shop function, or if personal networks can provide the same benefits. The three case-studies showed, that systematic transfer should be taken seriously as a valuable business, that should be systemised by commissioning institutions with this tasks rather than left by chance, or by the resources of researchers.

To support the Science Shop idea a range of things can and should be done:

The regional covering with Science Shops should be improved, as it was shown, that the work of Science Shops can only be in part Germany-wide. The establishment and fostering of networks is more promising on a regional level, a lot of funds are regional and a lot of offers have to be regional because of the given facts. Additionally the idea of Science Shops, that they are open for the public and close to the citizens, implies an even regional spreading of Science Shops.

Although the Science Shop Bonn works on an independent financial level very successfully, a basic funding would be helpful here as well, as this guarantees the dealing with small projects that are close to the citizens.

Science Shops should build up or extend their marketing-strategy, so that potential clients and partners have a chance to co-operate.

Universities should take the role of small intermediary institutions much more seriously and should much more use the potential for themselves, as the transfer of scientific knowledge into the society is still dissatisfactory in Germany. Germany should learn a lesson from the Netherlands, where it is taken for granted, that universities have a Science Shop that deals with knowledge transfer.

Concerning the two contrasted types of Science Shops, further research is to be done, in order to derive a general typology of existing Science Shop-concepts in Germany. As it should have become clear, both types have advantages and disadvantages, so there's no need to prefer one model to the other. The most important thing here is that the existing Science Shops in Germany gain strength together and support each other rather than get into competition. A crucial step in this direction is the network "Arbeitsgemeinschaft Wissenschaftsläden e.V." (AWILA e.V. – Working-group Science Shops) , a registered association of Science Shop in Germany and Austria. The aims of AWILA are to promote the Science Shop-idea by co-ordinating public relation, as well as

common activities and projects. Moreover there is a regular exchange on seminars and conferences.

Science Shops certainly have a great potential for providing the dialogue between science and society. It seems though, that their standing is very much dependent on societal priorities and science policy. So far the fostering of the interaction between science and civil society is mainly taken place on a discourse level. By putting its work more into the public and by increasing efforts in presenting its goals to policy makers, Science Shops can play a crucial role in putting this discourse into practice.

### **7.3. Scenario workshop**

*Compare National Report of Germany, June 2003, pp. 1, 4, 7, 9 – 10, 11 – 19, 22 – 25.*

#### **7.3.1. Basic reference data**

The Science Shop *kubus*, decided to focus the workshop subjects, title and locality on sustainable development in Berlin, the capital of Germany. This decision by the *kubus* Interacts team was based on a further developed paper on national workshop subjects and a criteria catalogue for this event.

The Science Shop *kubus* held the Interacts workshop of WP5 on Tuesday, June 3rd, 2003 as a daily event from 9 a.m. to 5 p.m. in the German capital Berlin.

The Berlin Workshop took place in three rooms of the Science Shop *kubus* itself and one plenary room of the ZEK (Centre for Co-operation), the department of TU Berlin which *kubus* belongs to. To use special rooms, *kubus* had to arrange to change rooms with the staff of ZEK. The plenary room houses twenty persons without a problem. The facilitators decided to build table rows as the best solution for twenty-six persons in the chosen room (twenty-one stakeholders, five organisers and facilitators).

Title of Workshop: The workshop title is "Dialogue between Science and Society about Sustainable Development in Berlin 2010".

Facilitators/ Organisers: *Kubus* developed the outline of the workshop event in co-operation with and feedback of the Science Shop *FBI* in Innsbruck. The *kubus* Interacts team invited Dr. Gabriela Schroffenegger (*FBI*) as external facilitator. Kirsten von der Heiden (*kubus*) took the role of co-facilitation. She was also part of the organising team and responsible for reporting. Andrea Gnaiger (*FBI*) wrote the notes during the

workshop. Dr. Endler supervised the whole workshop organisation, the workshop itself and the reporting<sup>8</sup>.

For the effective implementation of the workshop itself, *kubus* activated one keynote speaker, Mrs. Gisela Hoffmann, to introduce the Science Shop *kubus* itself. She later took part in the workshop as a role group member. Two persons (*kubus* staff: secretary and student tutor) carried out technical and organisational tasks: Mrs. Elisabeth Haug ordered and arranged the *kubus*-rooms, snacks, lunch and technical equipment needed. Mr. Daniel Tallarek wrote the stakeholder invitation lists and updated the list of participants. His part in the workshop itself was to complete and update the lists at the welcome desk and to take pictures. He did the layout of the workshop documentation based on the workshop minute (written by Mrs. Kirsten von der Heiden).

Information material: The following informative material was sent to the fifty participants invited. Table 1 gives an overview of pages, activity necessary (e.g. translation), a short summary of contents and comments on how useful the material is for running a successful scenario workshop, evaluated by the reporting team after the workshop.

Attachment	List of information material	Short summary	Comments
Letter  2 pages	Personally addressed invitation letter	Name of the chosen key-actor/s of the organisation invited on an official letterhead, date and title of the workshop, questions to be discussed, sense of the workshop for INTERACTS and participants, role groups invited, deadline for registration, locality, registration form	<i>Worth repeating in this manner: effective but time extensive</i>
A 1  1 page, partly translated	Summary of Interacts project	Introduction of INTERACTS and ISSNET, research questions, steps to reach research results, importance of the workshop, internet-link for further information of the projects	<i>Encouraging acceptance of basic information, objectives, knowledge about the intended methods of analysing the workshop results</i>
A 2 1 page, translated	Figure about knowledge transfer in general	Organisation of society based knowledge transfer	<i>Not useful if not a discussion paper on the workshop, figure</i>

<sup>8</sup> The disposable portion of the project fund from INTERACTS was spent on organisation, co-ordination and reporting, facilitation and protocol of the workshop. The appropriate salary of Dr. Schroffenegger and K. von der Heiden was paid out of project funds. All other human resources, e.g. Dr. Endler's supervision and work on the contents (all but 10%) and the technical support and organisation by the *kubus* staff secretary and student tutor were paid for out of *kubus*' own funds. The participation of Mrs. G. Hoffmann and Mr. J. Rubelt in the role group transfer organisation was partly voluntary and partly their duty.

sed on pattern			<i>was too complex visually and unstructured</i>
A 3  2 pages, locally adapted and in German	Invitation flyer	Flyer including all workshop data, locality and title needed, introducing <i>kubus</i> , Interacts and where to get the report, registration form; didactic form of address, sense of workshop, questions to discuss, objectives, chosen methodology for discussion, workshop programme - attractive presentation	<i>Gives a general overview of the workshop, the organising Science Shop, the general frame and objectives to facilitate the decision making process of potential stakeholders</i>
A 4  2 pages sent, 4 pages, translated into German	Summary of the case-study report	Short summary of the most important results of the three German case-studies concerning tasks and extent of transfer organisations in Germany, future role of knowledge transfer and lessons to learn for policy makers as well as to empower NGOs and intermediaries. The internet link to the INTERACTS reports was also given.	<i>The two page summary is a "bonus" for those who are interested in more information (4 pages), but not necessary to run a successful scenario workshop, none asked for the four pages</i>
A 5  1 pages, already existing by FBI's	Adapted methodology of EASW for one day	Tool description and reasons for running the INTERACTS workshops with the accepted European tool.	<i>Useful to let the stakeholders know the process involved, but still necessary to introduce the steps at the workshop itself</i>
A 6  2 Flyers	Flyers	Different additional flyers about specific activities of the organising institute and interesting parallel organisations.	<i>Not useful for a successful scenario workshop; in some cases not clear which flyer is the important one, better to lay them on a welcome desk</i>
*note	Personal note in case of more personal contact	Personal addressed to people well known, to emphasise the importance of the workshop and to keep in touch	<i>To be polite, even in a telephone call, makes the workshop more attractive</i>

Table 1: "List and explanation of the information material sent to the participants invited" (\*for complete awareness material see Interacts BSCW-server, folder Germany and workshop documentation in German language- annex).

### **7.3.2. Participants**

*Kubus* expected twenty-four participants (six of each role group) by provisional application, and in fact worked together with twenty-one participants (see *the list of*

*participants in the National Report of Germany appendix, chapter 7.4)* within the four role groups (each group consisted of at least four participants not exceeding six):

- Six participants representing the science and researcher group,
- Four representing the NGO group,
- Six representing the transfer group,
- Five representing the policy and public authority group.

Unfortunately three participants had to leave the workshop before the theme groups started, so the second part of the workshop took place with 18 persons.

Three members of the transfer group are also active NGO members, so the participation key was still successful, as was the follow up of the workshop outline within the theme groups.

*(For further participants characteristics see p. 8+9 of the National Report of Germany).*

The following broad team group topic areas were collected on flipcharts for the subsequent group work:

1. Structure and organisation of research (1S, 2N, 1T)
2. Goals of research/ Scientists` ideas about society / round tables (1S, 1N, 1T, 1P)
3. Translation of science into practice, use, participation (1S, 2T, 1P)
4. Co-operation/ Knowledge transfer between members of civil society and researchers (2S, 1N; 3T)

The abbreviations S, N, P, T refer to the actual division of participants among the topic groups from the previous role groups: S= science/ research; N= non-governmental organisation/ trade union, T= transfer organisation; P= politics, administration.

Students: There were no students as participant, but one students` tutor in the organising team.

### **7.3.3. Presentation by organisers**

*Compare National Report of Germany, June 2003, p. 4.:*

*Description of the organising process and workshop outline:*

1. Participants were selected (*criteria catalogue in: National Report of Germany, annex chapter.: 7.2, p. 27*) and prepared for the ongoing event.
2. Information material (*list: see above*) was sent to the potential fifty participants: including a summary of Interacts project, a diagram about knowledge transfer in general, an invitation flyer, a summary of the case-study report, methodology EASW adapted to a one-day event for the workshop (*see Interacts BSCW-server*) and flyers about ZEK and *kubus* activity.

3. Outline of the Scenario workshop on June 3rd, 2003 in Berlin.

<b>Time foreseen</b>	<b>Task</b>	<b>Who?</b>	<b>Actual Time</b>
9:00 a.m.	Introducing the workshop frame: <ul style="list-style-type: none"> <li>Welcome, introducing Interacts &amp; workshop</li> <li>Introducing <i>kubus</i> &amp; case study topics</li> <li>Methodology chosen &amp; outline</li> </ul>	Dr. W. Endler ( <i>kubus</i> ) G. Hoffmann ( <i>kubus</i> ) Dr. G. Schroffenegger (FBI)	9:20 a.m.
9:15 a.m.	Stakeholders' Introduction:	21 Participants Facilitation: Dr. G.Schroffenegger Notes: K.v.d.Heiden	9:45 a.m.
10:30 a.m.	Jump in the future, develop 2010 scenario, best case scenario (integrated coffee break)	Four homogeneous groups without a facilitator of the organising team (support if requested)	10:55 a.m.
11:35 a.m.	Plenary group, introduction of future vision to the other role groups, each 12'	Speaker of each group, feedback of the group and plenary group notes by K.v.d.H.	11:45 a.m.
12:35 a.m.	Plenary session: fix the themes by spontaneous listing	G. Schroffenegger (FBI)	12:45 a.m.
13:00 a.m.	Lunch break at the "Mensa"-restaurant of the TU-Berlin	All stakeholders	13:30 p.m.
14:00 p.m.	Introduction of the second part of the workshop	G. Schroffenegger (FBI)	14:30 p.m.
14:15 p.m.	Theme-groups thinking about action and recommendations, coffee break included	Mixed theme groups	14:45 p.m.
15:15 p.m.	Plenary group: presentation of the theme group results, each 10'	Speaker of each group, Feedback of the group and plenary group	15:35 p.m.
15:55 p.m.	Summary of future activity	G. Schroffenegger (FBI) Stakeholder discussion	16:20 p.m.
16:15 p.m.	Feedback	All stakeholders	16:40 p.m.
16:30 p.m.	End of the formal part of the workshop, coffee and cake	Organising team	17:00 p.m.

Table 2: Outline of the Scenario workshop on June 3<sup>rd</sup>, 2003 in Berlin



### **7.3.4. Workshop results**

(for full text results study National Report of Germany, June 2003, p.11 – 19, in addition see poster v.d.Heiden & Endler 2003)

#### *7.3.4.1. Vision making results summary*

##### Science and research:

- Research subjects of interest of the researchers (courses/projects)
- Connection to Society: round tables, mediators
- All institutions equipped with mediators => build up a linkage
- Chairpersons of round table talks are the translators
- Researchers' self-reflection

##### NGO/ Trade Unions:

- Scientists as NGO co-workers on 1/3 of their working time,
- so society demands become transferred into their institutions
- NGO contracting knowledge transfer institutions
- Participation in Agenda setting, educational modules, political decision-making is for granted
- One sponsor fund for all!

##### Intermediaries/ Science Shops:

- Scientific and public research!
- Problem-orientated action research, social learning process
- Interdisciplinary and participatory research rewarded by the Scientific Community

##### Policy and Public authority:

- Budget deficit is overcome
- Politics takes account of scientific potential
- Practice-related research as service provider
- Thinking becomes inclusive

#### *7.3.4.2. Common priorities (thematic groups)*

##### Structure and organisation of research:

- Sources of third party funds
- Problem-orientated modules in universities
- Involvement of NGO and civil society in research and teaching

- Scientists active co-operation with NGO and Intermediaries
- Basic funding of NGO/ project work

Research goals / Reflection about Society:

- Early involvement of students and society members => setting goals
- Adaptation of methods for action research/ social learning
- Alteration of values/ motives
- Guarantee practical relevance of research results => practice has an effect on mainstream

Translation of Science into practise, action, participation:

- Actions of e.g. administrations based on research results
- Feedback towards Scientific Community about use of results
- Compulsory participation and interdisciplinary teams

Co-operation/ Knowledge transfer:

- Current knowledge to be made available as quickly as possible
- Readiness to concern oneself with new knowledge (usefulness)
- Create networks of partners for consultation

**7.3.5. Proposal for future actions**

Lessons to learn:

- Parallel approach wanted: Community based research and scientific research with mutual respect and equal evaluation integrating local knowledge
- Working staff exchanges, flexible simultaneous working places
- The following linkages are needed for future networks:
  - Link is required between university and society, tied to the university, e.g. *kubus*
  - Link for tasks on transfer, mediation, translation, need identification is required between universities and NGO => Science Shops, professional facilitators, mediators

Future actions:

*Suggested actions by working group on research goals/ reflection:*

- Involvement of other groups, e.g. students, NGOs in research
- Involvement of active members of society when setting research goals and co-operations
- Alteration of values: non-monetary motives should be respected

*Suggested activity by the working group on structure and organisation of research:*

- There is still a need for further discussion on the subject of setting priorities for research goals and research structure. The Technical University Berlin should increase its discussions in a suitable form with the public.
- Organise discussions to involve participants in the modernisation of the modules for study courses at the Technical University Berlin. How can those active in society be involved? The question of the mixture of participants. Who should actually come? Who should give the invitation? With whom can or should such topics be discussed? The distributors of the Agenda 21 Berlin/ Brandenburg could be used.
- Necessary to raise consciousness. Communicate that there is a debate, in which I as NGO can participate. E.g. the debate about modularising is not widely known. The chance to be involved should be publicised.
- Knowledge gained through Agenda work could be fed into the actual debate.

*Suggested action by the working group on putting ideas into action/ practice/ participation:*

- Compulsory participation should become part of all important processes. The exclusion of certain actors from the start of the project planning should be prevented. This could also be applied to other projects, but would have to be desired, accepted and supported by all those involved.
- Those, active in society should also give public support to institutions of knowledge transfer. These institutions are coming under increasing pressure. These initiatives should be taken up and supported by society. Areas of dialogue should be established, which can be sustained through difficult times.

*Suggested action by the Working Group on Knowledge Transfer:*

- A link is required between university and society, tied to the university, e.g. *kubus*.
- All those who are prepared to be involved in the transfer service should be gathered in one pool, e.g. in the framework of a study project.
- 

### **7.3.6. Implementation of results/ Dissemination**

#### **Implementation of suggested action**

As one practical result, *kubus* organised two discussion forum (July 15th, 2003 and August 26th, 2003, to be continued) about modernisation of the modules for study courses at the *Technical University Berlin*, involving NGOs. The demand on information transfer and to be involved as participants became clearly faced at the INTERACTS workshop at June 3rd, 2003. The invitation letter has easily been sent by e-mail to all INTERACTS workshop participants. The discussion forum aim to inform NGOs about the

status quo of modernisation of the modules, to report activities driven by the workshop participants transferring their proposals for future modules and to define new common activities.

#### Dissemination

A national dissemination event is in planning process October 2003 to take place in November 2003.

The dissemination, including poster presentations, handouts, postcards and further information material is planned and in organisation process for the special INTERACTS event, the 'European Social Forum' conference, in November 14<sup>th</sup>, 2003 in Paris ([www.fse-esf.org](http://www.fse-esf.org)).

#### Documentation/ Publication

The workshop minute, in German, written by K. v. d. Heiden & Dr. W. Endler (based on the protocol by A. Gnaiger), was sent to the workshop participants by e-mail, three weeks after the workshop. The list of participants, including address, phone number, e-mail was sent to all participants beforehand by e-mail and the personal introduction as well as the feedback was sent with a request to correct mistakes. In addition, a documentation in German was worked out by D. Tallarek, Kirsten von der Heiden and Dr. W. Endler and sent as a booklet by mail to all the participants and further interested community members.

The report is based on the authors' own general experiences of analysing workshops and those gained during the workshop itself. The workshop minute and the simultaneously developed documentation were taken as the basis for the contents report.

A poster-abstract about the German workshop results and experiences is published and the poster presented at the 16<sup>th</sup> ESEE Conference 2003 in Hungary:

*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 16<sup>th</sup> ESEE European Seminar on Extension Education, Eger, Hungary on September 2<sup>nd</sup> -8<sup>th</sup>, eds.: József Kozári, pp. 320 – 322,*  
[www.altgrabusiness.hu/confers/Esee2003](http://www.altgrabusiness.hu/confers/Esee2003)

An article to place in print media, e.g. 'The Raven Ralf' and TU intern is planned.

### **7.3.7. Comments or reflections from organisers**

*Kubus* organised a successful Interacts Scenario workshop resulting new stakeholder linkages and further requirements for networking aiming sustainable development in Berlin. An exchange of expectations and future visions between the participating stakeholders opened new perspectives for co-operation of enthusiastic individuals/ organisations and common action planning. For future activities the workshop results and experiences will brightly be extended and transferred to addressees by means of documentation, public relation, articles/ posters and new forum organisation/ participation and networking activities. Those shall be combined with already existing forum and round tables, e.g. Agenda 21. A democratising process of university bodies is initiated by new discussion forum about modernising of the modules for study courses, organised by *kubus*. All participants gave the impression to seize the workshop suggestions summarised in this report.

#### Scenario workshop tools

The EASW methodology was chosen as a tool to catch futuristic approaches not primarily limited by existing structures. The Scenario workshop methodology “EASW” was chosen for the first time by *kubus*, therefore inviting an external and experienced facilitator (project-partner).

During the project process in Germany, concrete ideas and considerations were already won to answer the basic question concerned with the future interaction of science and society. A summary was given as a handout to the participants before-hand. There were quite clear and concrete workshop objectives to attract stakeholder participation and to work with. Reflecting the workshop, the objectives for work sessions were very much flexibilised following the EASW methodology, much more then known with the tool “Zukunftswerkstatt”, *kubus* used various times.

The workshop was done at the nearly end of the INTERACTS project to add more futuristic ideas of local stakeholder groups and bring them together for discussion and networking, to fundamentally specify the national debate about expectations and conditions for future co-operation between NGOs, universities and intermediaries like Science Shops. Initiated networking activities now have to become continued by the social groups themself, without INTERACTS project support. Even the organising and men-power intensity for this workshop and forum was of high organisational voluntary input.

At the project start, an EASW workshop (as a ‘decision making tool’) could have been more effective while participatory define research topics and discuss the most important local objectives with a net of key-actors. Those identified and willing to realise the action

plan ideas could be better accompanied by intermediaries during the project run. Workshop results show a high level of enthusiasm for change and co-operation by individuals but at the same time lots of open questions on 'how' to realise change and 'how' to realise the linkages needed between the role groups couldn't be answered concretely yet.

One of the prior criteria in deliberately choosing the potential participants in the national workshop was the 'already existing experiences with knowledge transfer' and 'participation in co-operation projects' with transfer-organisations. Most of the key-actors were experienced with Scenario or Future workshops, called 'Zukunftswerkstatt'. The level of stakeholder knowledge about the workshop objectives was very promising for more concrete results supported by more concrete questionnaires. The potential of EASW including the role change compared with 'Zukunftswerkstatt' is very attractive to get a bright overview of status quo and a basic level of arrangements.

## **7.4. Policy recommendations based on national experiences**

*Ideas based upon State-of-the-art, case studies and workshop reflections*

### **7.4.1. Main policy recommendations on local/ regional level:**

- Funding and installing societal discourse, round tables, participatory/ interdisciplinary projects, city-wide discussions = networking activities
- Enable common decision making of all role groups => activity

### **7.4.2. State-of-the-art report**

- Install a democratic system of well-informed citizens
- Support need based knowledge production and become a client
- Fund Science Shops' networks to close the gap between research and NGO
- Support two-way communication/ new communication tools/ methods
- Programmes to change research structures
- Support knowledge transfer tasks

### **7.4.3. German Case studies report**

- Regional covering with Science Shops - support regional networking activities
- Basic funding of regional Science Shops and small project activities close to citizen
- Help to build up marketing strategies and easier access on knowledge service

#### **7.4.4. Scenario workshop report**

- Installing credit points for transfer tasks = public funding
- Change evaluation criteria for researchers by Scientific Community
- Basic funding for intermediaries and NGO

### **7.5. Produced reports and material**

*Additional oral presentations, articles, reports, dissemination on national level, not mentioned in the Interim Report, February 2002:*

State-of-the-art report: including Country report: Germany, contributed by Corinna Fischer & Annette Wallentin in June 2002, pp. 109 (*see: Interim Report*)

German Case-studies report, contributed by Simone Steinberg & Malte Schophaus in January 2003, pp. 111

National report of Germany - Interacts Scenario workshop in Berlin: Tuesday, June 3rd, 2003 contributed by Kirsten von der Heiden & Dr. Wolfgang Endler in August 2003, pp. 32 + external annex

'Dialog von Wissenschaft und Gesellschaft über nachhaltige Entwicklung in Berlin 2003' - Dokumentation des Workshops vom 03. Juni 2003 in der TU-Berlin, workshop documentation contributed by Wolfgang Endler, Kirsten von der Heiden und Daniel Tallarek, June 2003, pp. 32 + annex

A poster-abstract about the German workshop results and experiences is published and the poster presented at the 16<sup>th</sup> ESEE Conference 2003 in Hungary:

*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 16<sup>th</sup> ESEE European Seminar on Extension Education, Eger, Hungary on September 2<sup>nd</sup> -8<sup>th</sup>, eds.: József Kozári, pp. 320 – 322, [www.altagrusiness.hu/confers/Esee2003](http://www.altagrusiness.hu/confers/Esee2003)

*List of materials, see: table 1 above; all uploaded on the common workspace: BSCW Server:*

- Transparencies for the Scenario workshop and for the Berlin INTERACTS meeting

- Invitation Flyer
- List of Stakeholders
- Personally addressed invitation letter
- Summary of Interacts project
- Figure about knowledge transfer in general
- Summary of the case-study report
- Adapted methodology of EASW for one day (FBI)
- Workshop minute



## **Appendix 8: National Summary: Romania**

### **8.1. National context**

#### ***8.1.1. Discourse on science and society***

The discourse on society and science in Romania is based on the idea of the open society and its values, these being defined as the main targets of universities after the democratisation of the country in 1990. However, in Romania there is still lacking a culture of partnership, no matter whether one is speaking about public administration structures, business, or NGOs.

Even if the overwhelming problems of day-to-day life in Romania are rather of a social and economic nature, environmental protection and increased awareness are important topics because they can contribute to sustainable development and European integration. “Environmental issues” were not valued as they should have been in Romania before 1990, even though the country was highly industrialised and agriculture was practised in an intensive way. There is a need for education in order to raise the environmental awareness and also for the joint involvement of universities and local communities in environmental problem solving, and that is why this sector became the special focus of the Romanian science shops.

The reform of higher education is another important issue that can contribute to the opening of universities towards societal problems. Thus, even if the students receive very good quality information related to a variety of disciplines that can provide the background of their future work, their involvement in projects during faculty years, as well as their capabilities to work in multidisciplinary teams (important especially for environmental issues) or with requests from the society are not well developed. Science shops offer students this opportunity to do project-based learning and bring added value to various disciplines by offering case studies of research realised for the community on specific problems like air and water quality, waste management or environmental education. The introduction of the credit point systems in all Romanian universities can respond to at least some of the major challenges that universities have to face in order to assure a modern education of the students: the inclusion of new attributes such as: flexible modules for learning, improved co-operation with industry and communities, independent work, problem-based learning; international exchange and international co-

operation projects, expansion of open and distance learning education for undergraduate and post-graduate studies.

### **8.1.2. Overview of science shops in Romania**

Science shops in Romania were created in 1998 by means of a grant provided by the Dutch Ministry of Foreign Affairs, that has a special fund to support the transition in Central and Eastern Europe (MATRA program). The science shop-method fitted in well with program targets to strengthen the new democracy such as “strengthening environmental NGOs”, “environmental improvement” and “improving legal security of citizens. Thus, by means of bilateral agreements of university co-operation, and based on the financial support of the MATRA program, as well as of the expertise and training provided by the Dutch team, 4 science shops were initially established in Romania, in the region of Moldova in the cities of Iasi, Bacau and Galati (1998 and 1999). Later on, by means of a MATRA follow-up proposal, other four science shops were open in Bucuresti, Ploiesti, Brasov and Oradea (2003). The representatives of all InterMEDIU Centres form the Romanian Science Shop Network (organised as an association, i.e. Asociatia INTERMEDIUNET Romania, legalised in May 2003) that has as objectives the support of individual shops and the creation of new ones, as well as the dissemination of specific activities, hopefully leading to a full recognition and support of science shops by the Romanian Ministry of Education.

All these science shops are based at Faculty level and use the generic name "InterMEDIU", chosen to symbolise both the role that is played by these centres (interface between university and society) and also their expertise and field of activity, mainly environmental ("mediu" means "environment" in Romanian). The Romanian Centres are organised either as independent, non-profit departments of the Universities (“Gh. Asachi” Technical University of Iasi, “Dunarea de Jos” University of Galati, Politehnica University Bucuresti) or managed by a specific Faculty (State University of Bacau and “Al.I.Cuza” University of Iasi).

### **8.1.3. Funding regulations**

Since the Science Shop structure is not recognised officially as an NGO, it is not possible to apply for NGO funds at a national level. The situation is the same for partnerships with NGOs, where there are no special funds for such partnerships (in this case science shops would apply as university departments).

In the absence of a core financing (like that provided by the MATRA funds), most of the

InterMEDIU Centres have obtained project grants and/or longer-term projects to generate income (through the Centres of Excellence, by developing distance-learning courses, through small paid projects and analyses, partners in projects with NGOs). By increasing their role in the University and by improving their outreach to the society organisations, science shop structures could in future attract the Romanian Ministry of Education support, as well as that of the European Community programs.

#### **8.1.4. The NGOs as potential clients**

NGOs are really interested in the progress of the civil society, but they are often poorly informed about the specific sector reforms that the government is planning or implementing and also have limited human and financial resources to participate in programs or decision making. There are also differences between NGOs as size and their social and political involvement, most of these organisations being financed from project funds. NGO's representatives consider the co-operation with universities or research institutes as favourable both for their organisations and local public authorities. The science shops, as intermediary between academic institution and civil society, are considered as important links for establishing the basis for this co-operation and by providing assistance to NGOs in communities' problems solving.

Many of the activities with society groups (assistance with project development, information, documentation, research) were free of charge, the costs being to a major extent supported from the MATRA funding and by the Universities (to a very small extent). However, the universities do not allocate credit points for students or staff time for science shop activities.

#### **8.1.5. Institutional and legal framework**

There is no specific legislation directed to the science shop foundation or activities, the most relevant documents being those related to research and education. Even if there are no special mentions related to Science Shop activities, this concept being relatively new for Romania, the Government recently acknowledged the importance of creating a link between universities and the economic and social environment. Thus, by a Government Order, HG 1338 /27.12.2001, the founding of *APART- National Agency for Partnership between Universities and Economic-social Environment* subordinated to Ministry of Education and Research was established.

At the level of Universities, the existence of science shops is affected by internal documents that establish their form of organisation or existent co-operation agreements,

participation of students as volunteers, during practical periods or diploma projects, possible funding sources.

## 8.2. Romanian Case Studies

### 8.2.1. Criteria for case studies selection

The Romanian case studies selected to be studied for the INTERACTS project have been chosen so as to fulfil the general requirements and methodology established by the consortium. However, there are few issues that have to be mentioned for case studies selection in the Romanian context (considering the fact that the science shop approach has been introduced quite recently):

- all cases are considered to be relevant for science shop work (university based), and have been accomplished with students participation;
- the selected case studies are based on projects that were finalised before December 2001, and had *environmental issues* as objectives;
- outcomes and follow-up of the projects documentation is available and can be used also to discuss the impacts on universities, community and science shops;
- all case studies involved the three actors: NGOs, researchers/students and science shops, and are chosen so as to demonstrate science shop usual requests (small projects that provide specific information or research projects with a longer duration)
- a minimum of 6 interviews per case have been realised, but there were cases in which the same person (science shop manager/supervisor, or NGO key respondent/manager) had to reply both at the first level questions (direct involvement in research) and at the second level questions (policy level);
- direct and indirect impacts of projects realisation can be discussed in relation to all the organizations involved (NGO's, universities, science shops).

The three case studies that are to be presented, have been selected from 2 different science shops, as follows: two case studies based on projects that have been realised at the *InterMEDIU Information, Consultancy and ODL Department, Technical University of Iasi* (partner in the INTERACTS EC project) and one case study that was realised in another Romanian science shop *InterMEDIU Information and Research Centre, Faculty of Biology, "Al.I.Cuza" University of Iasi*. Thus, aspects related to a comparative, objective prospective, validation of science shop research and diversity of approaches even for the same field (environmental) are tackled.

### **8.2.2. Case 1: Evaluation of the quality of drinking water supplied in the city of Iasi**

This study realised in 1999 represented the pilot project of the new founded science shop InterMEDIU (Technical University of Iasi) and has been considered as relevant in illustrating the science shop approach for the study of a problem that is of interest for the whole community. It is worth mentioning that until the beginning of this project, no unitary correlations were made between the quality of sources, the treatment achieved at the Water Works Company, and the opinions and expectations of the population.

An assessment of problems related to drinking water was realised by means of 2584 questionnaires addressed to the population living in different neighbourhoods, supplied by different sources of treated water. The results of these questionnaires, together with the analysis of quality indicators (physical and chemical) of treated water, served as a base for discussion of treatment technologies currently applied by the Water Works Company for different sources of raw water. Quality indicators for toxic micropollutants were determined for the surface water sources. A correlation between the technical conditions and the degree of treatment was realised and also recommendations for improving the existent situation were given. A public debate on drinking water quality was organised and representatives of community (NGOs, neighbourhoods associations), university staff and students, research institutes, governmental organizations (Environmental Protection Agency, City Hall representatives), Water Works Company, media were invited. The project received a good media coverage and for the students of the Environmental Engineering Department represented a very good opportunity to apply their knowledge related to Water Treatment technologies, but also to learn more about the techniques of social inquiry, project management and computer applications.

#### *8.2.2.1. Fact Sheet*

National title of the report: Evaluarea situatiei calității apei potabile în orașul Iasi

English title of the report: Evaluation of the quality of drinking water supplied in the city of Iasi

Request: The initiation of the project was a consequence of the discussions between representatives of science shop, representatives of NGO, the Dutch partners of the MATRA program and the staff of the Environmental Engineering Department, especially in the context of choosing an appropriate pilot project for the new founded InterMEDIU science shop (1999). Personal involvement and existent co-operation between the project participants were important for project initiation.

Aim: To consult the community about the quality and quantity of drinking water supplied by different sources by 1) comparing the major qualitative problems raised by the

population with the existent situation in the treatment plants, 2) formulating proposals for improving the existent situation, and 3) organising a public debate concerning the drinking water quality, with representatives of interested governmental and non-governmental organizations.

Duration: 6 months (June-November 1999)

Students: 10 Students of the Faculty of Industrial Chemistry, specialization *Environmental Engineering*, in the 3<sup>rd</sup> and the 4<sup>th</sup> year of study, as part of their practical period (July 1999) and afterwards on a voluntary basis.

Costs: All the costs related to project accomplishment and finalisation were supported from the MATRA program (*Science Shops in Romanian Moldova*, granted by the Dutch Ministry of Foreign Affairs, 1998).

Outcomes:

- Official report of the project, distributed to NGOs, Water Works Company Iasi, EPA Iasi, City Hall Iasi, university staff and students, research institutes, other science shops, MATRA project supervisors, media;
- Public debate (local NGOs, EPA, university staff from several faculties, representatives of other Romanian science shops, Water Works company, other governmental organizations: Institute of Hygiene, other Research Institutes);
- Press release and articles in the local news papers, invitation for a TV debate;
- 4 papers published in peer-reviewed journals;
- 3 diploma thesis;
- consideration of the problem (quality of drinking water and modernisation of water treatment facilities) as needing to be included in all the local development strategies;
- publicity folders given to local NGOs and associations;
- follow up requests for participation of InterMEDIU in projects regarding water quality (2 proposals)
- at the Galati (Dunarea de Jos University) science shop the structure of this project was adopted, so as to answer the request of the local Water Company.

Working methodology: The project was planned, with intermediate results referring to the collection and analysis of 2584 questionnaires applied for people living in neighbourhoods supplied with drinking water provided by 3 different treatment plants (the questionnaire was specially designed for this project so as to collect information from population regarding the quality and quantity of drinking water and to allow comparison of the sources). A survey of laboratory results of the qualitative indicators for

treated water (physical and chemical indicators as provided by each of the treatment plants) and the determination of some priority pollutants (in a specialised laboratory in The Netherlands) were also realised in order to evaluate the efficiencies achieved in different stages of water treatment. Students under the supervision of science shop co-ordinators contributed both to the collection of raw data, analysis, and interpretation.

Conducted interviews:

Level 1: 1 NGO representative, 2 students, and 2 researchers (supervisor and science shop staff member)

Level 2: 1 NGO manager, 1 faculty dean, and 1 Science Shop manager.

**8.2.3. Case 2: *The impact of wastewater resulted from the industrial production of yeast on the river Siret***

This project started from the question of an environmental NGO and was developed as a science- shop project that was finalised with a report and also presented to the Annual Students' Scientific Workshop. The project had as objective the evaluation of the environmental impact of the wastewaters generated from yeast production over the receiving waters of the river Siret.

This project contains general information about technological process for yeast fabrication and about wastewaters resulted from this process. It also offers information depicted in literature regarding treatment processes recommended for removal of pollutants from the wastewaters resulted in industrial production of yeast. The impact of wastewaters on the receiving waters was also analysed, with suggestions for improving the environmental situation.

The NGO used the information presented in the report both for the NGOs members and local community information.

**8.2.3.1. *Fact Sheet***

National title of the report: "Impactul apei uzate rezultate de la producerea industrială a drojdiei asupra râului Siret"

English title of the report: "The impact of wastewaters resulted from the industrial production of yeast on the river of Siret"

Request: The project had as starting point the question posed by a NGO, Clubul de Ecologie si Turism Moldavia, from the city of Pascani, County of Iasi, which had the purpose to inform, both the NGO members and citizens of the city, regarding the quality of Siret river water, in order to verify if a certain company has a negative impact on the water quality of this river, because of wastewater discharges. The NGO was interested if

the wastewater resulted from the production process could contain hazardous substances that can influence apart from water quality parameters also the existence of aquatic ecosystems.

Aim: The major objectives of this project were:

- evaluation of the industrial process of yeast fabrication from molasses, with respect to emissions in wastewaters, their discharge and treatment possibilities;
- analysis of the environmental impact produced by wastewaters considering their possible discharge into the sewerage system without preliminary treatment;
- suggestions for improving the existent situation.

Duration: 3 months (February, March and May 2000)

Students: 1 Student of the Faculty of Industrial Chemistry, specialization *Environmental Engineering*, in the 4<sup>th</sup> year of study.

Costs: All the costs involved for project realisation were supported by the science shop through the MATRA project funds, designed for the implementation of science shop activities at InterMEDIU TU Iasi.

Outcomes:

- Official report for the NGO and distributed to other organisations;
- Meetings with NGO;
- Public debate;
- Media press release;
- Presentation in the Annual Students' Scientific Workshop, Faculty of Industrial Chemistry;
- M.Sc. dissertation thesis.

Working methodology: The research methods used for completing the project consisted in 1) Documentation on the technology of yeast production and main environmental emissions (gathering information from different reference materials: books, reports, Internet sources, standards of discharge limits or analysis of the data from the EPA referring to environmental permits), 2) Interviews with the NGO and Environmental Protection Agency representatives, and 3) Analysis of the findings and report writing.

Conducted interviews:

Level 1: 1 NGO representative, 1 student, and 1 supervisor (being also the science shop co-ordinator)



Level 2: 1 NGO manager, 1 faculty vice-dean with research, and 1 science shop manager.

#### **8.2.4. Case 3: Project Vladeni 2000- Biodiversity Conservation in the Wetland Vladeni (Iasi County- Romania)**

Vladeni 2000 is the first systematic study in the area that provided needed information and helped the foundation of a long-term research and biological monitoring activity. Data acquired were brought together into a computational database to which residents, students, scientists, and local authorities have free access. The study might be further developed as starting point for a more complex research project with the purpose to realise a monograph of the area.

Results can be further used as the scientific background for an official request regarding a RAMSAR site statement of the area. The project investigated the status, distribution and habitat requirements of several globally threatened species of birds: Pygmy cormorant (*Phalacrocorax pygmeus*), Lesser white - fronted Goose (*Anser erythropus*), Ferruginous Duck (*Aythya nyroca*), Red - breasted Goose (*Branta ruficollis*), Spotted Eagle (*Aquila clanga*), Imperial Eagle (*Aquila heliaca*), Pallid Harrier (*Circus macrourus*), White - tailed Eagle (*Haliaeetus albicilla*), Corncrake (*Crex crex*), Great Snipe (*Gallinago media*) etc.

Study was realised by three NGOs: Romanian Ornithology Society, Romanian Mycological Society and Society for Ecology, InterMEDIU science shop, university staff and students from the Faculty of Biology.

At the same time with the study at Vladeni project, InterMEDIU Centre ("Al. I. Cuza" University) has organised a pilot project concerning ecological education in several elementary and secondary schools from Iasi. Close collaboration with local population and authorities helped to raise public awareness and to formulate an efficient conservation programme.

##### **8.2.4.1. Fact Sheet**

National title of the report: Proiect Vladeni 2000- Conservarea biodiversităţii în zona umedă Vlădeni (judeţul Iaşi- România)

English title of the report: Project Vladeni 2000- Biodiversity Conservation in the Wetland Vladeni (Iasi County- Romania)

Request: The project proposal submitted to British Petroleum Environmental Programme was initiated by the students of the Faculty of Biology, “Al.I.Cuza” University of Iasi, under the supervision of InterMEDIU Science shop and SOR staff. They approached the field of Conservation Biology- a new domain of interest and research in Romania. Later on Romanian Mycological Society joined them.

Aim: The project objectives were structured in three parts:

*Objectives related to environmental conservation:*

- To evaluate the global situation regarding flora and fauna in the area;
- To estimate the real ecological function of the protected area;
- To identify the human activity with environmental impact and to estimate the level of human pressure in the area (industry, agriculture, fisheries, grazing);
- To assess RAMSAR sites in the investigated area.

*Ornithological fieldwork objectives:*

- To realise a monitoring study of birds migration in the area;
- To realise a Red List of the area species: vulnerable and threatened species;
- To create a teamwork for continuous survey of the wetland.

*Environmental education objectives:*

- To involve local authorities and decision makers in key environmental problems in the district;
- To educate public (school pupils and grown-ups) in both environmental and democratic awareness.

Duration: 12 months (January-December 2000).

Students/pupils:

- 6 undergraduate students and 3 M. Sc. Students of the Faculty of Biology, “Al. I. Cuza” University, Iasi;
- 16 pupils with ages between 12-15, from the Secondary schools no. 7, 16 and 39, that participated in the framework of a summer ecological holiday camp.

Costs: All costs were supported by British Petroleum Environmental Programme, MATRA project and by the Faculty of Biology, “Al. I. Cuza” University, Iasi.

#### Outcomes:

- Official report to British Petroleum;
- CD ROM containing the Romanian and English version of the report;
- Public debates with invited representatives from the: Environmental Protection Inspectorate, “Romanian Water” S.A. Iasi, Romanian Ornithological Society, “Lotca” S.A., which administer the Larga Jijia-Vladeni fisheries area, NGOs, university staff, students and pupils;
- Press release/articles in the local and central newspapers, invitation for 2 radio debates;
- 7 papers published: 1 at Venice, Italy (2001), 1 at Xanthi, Greece, (2001), 1 at Brasov (2000) and 3 at Bacau (2000) and 1 at Timisoara;
- Presentation at the Students Scientific Workshop “Europe Day”; 2<sup>nd</sup> award
- Proposal for new projects;
- Acceptance for presentation at a future scientific communication.

Working methodology: This student research project was focalised on biodiversity maintenance (birds especially, plants and micro-organisms) of wet area from the Larga Jijia-Vladeni perimeter. Data collection and analysis involved a detailed study regarding the characteristics of the area supplied information from the climatic, geotechnical, quality of environmental factors, hydrobiological and ecological point of view. Sampling sessions covered the period: June - November 2000. Three teams with hydrobiological, mycobiological and ornithological specific tasks were formed, each of them being responsible to collect data according to their field of activities. Sampling, species identification, species monitoring, and ecological importance of biota assessment were part of the hydrobiological study. Physicochemical water properties assessment was provided by the “Romanian Waters” SA Iasi (County Waterboard). Stationary sites across the ponds were established; the nets were used to catch the animals and for anurans in the aquatic environment, while in the terrestrial environment the anurans and reptiles were caught by hand. Data were further computer processed and interpretation of results led to several conclusions established by each team, and presented in the final report.

#### Conducted interviews:

Level 1: 1 NGO representative, 2 students, and 1 supervisor (being also the science shop co-ordinator)

Level 2: 1 NGO manager, 2 faculty vice-deans (with research and education), and 1 science shop manager.

### ***8.2.5. Impact and policy evaluation***

Science shop activities in Romania are quite a new trend that links the expertise existent in universities with the requests of society groups (NGOs, associations), at the same time trying to contribute to the reform of higher education and modernisation of the curricula by increasing the involvement of students in project work. This section analyses the importance of collaborative research as policy level interviewees emphasized it in relation to the Case Studies.

The Romanian science shops experiences have been perceived by the interviewees as valuable for the facilitation of public access to scientific research, information and education. The interaction between community groups and universities/faculties through the science shops has several benefits for all the partners, the impact of such activities been mainly observed at a local level.

Civil society organizations request science shop assistance with requests concerning their need for information, documentation/research, and development of new perspectives/organisational capabilities, or improvement of their visibility for different groups. The accessibility of science shops (explicit openness for the public), their neutral position, the usage of systematic methods, adequate presentation of results (in the form of public project reports) and the fact that no financial obligations were imposed for the NGOs are important issues that contribute to the access of community groups to the knowledge existent in universities and influence further their active involvement in environmental activities or policy making. However, NGOs involvement in science shop projects is very different and ranges from discussion of project objectives, involvement in the organisation of public debates or contributions to the actual research work.

One of the science shop particularities is the fact that projects are carried out entirely/partially by students who, in all cases that have been studied, showed interest for these types of activities, mainly due to the acquirement of valuable skills that contribute to their professional development and increase their chances for employment. Aspects such as: improvement of communication, teamwork and computer skills, experience with national/international project work, or improved knowledge on research methodology and practice are important for their formation and future career.

Supervisors of science shop projects (staff members of universities) and other scientists are interested in science shop projects in connection with their teaching and research interests, improvement of project management skills and the achievement of a social dimension of the scientific work. For staff members that are also science shop managers, as well as for the students involved, problems appear due to the fact that these activities have no allocated staff time limits or credit points and are considered on a project basis. Other groups benefit indirectly from science shop activities or educational programs by using information for local, national/international programs, or by creating linkages with other experts or governmental organisations.

For the universities/faculties the science shop activities can bring specific contributions related to modernisation of curricula and the opening of new perspectives for collaborative research, at national or international level. Such contributions refer to: inclusion of science shop project results into the regular teaching activity, development of flexible modules of learning or post-graduate courses in co-operation with other university departments, the formulation of new project proposals and facilitation of multi-disciplinary research.

Science shop operation in Romania has so far developed quite well, with short and long-term benefits for the civil and scientific society. However, the existence and development of such entities in Romanian Universities remain closely connected to the existence of adequate financial and policy support. Both science shops that contributed with projects to the Romanian Case Studies Report received initial funding from the MATRA program, financed by the Dutch Ministry of Foreign Affairs and partially from the Romanian Universities. In the absence of core-funding provided by MATRA, the science shops partially continued their activities due to development of different programs or projects of co-operation. Many of the initial activities with society groups (assistance with project development, information, documentation) have been continued to a limited extent, on a volunteer basis, with supplementary efforts in terms of students and staff time.

## **8.3. Scenario Workshop**

### **8.3.1. Basic reference data**

Country, location: Romania, location: the Professoral Council Room and the “Orizont” Hall of the Faculty of Industrial Chemistry - “Gh. Asachi” Technical University of Iasi

Title of workshop: “How can the relations between the civil society and university be strengthened by science shop activities in 2010?”

Date and duration: the 24<sup>th</sup> of June 2003, starting at 9.30h a.m. and finalized at 17h p.m.

Organiser: Information, Consultancy and ODL Department InterMEDIU of “Gh. Asachi” Technical University of Iasi, Romania.

Workshop moderators: Prof. Dr. Ing. Carmen Teodosiu (workshop co-ordinator) - Professor in the Department of Environmental Engineering (Faculty of Industrial Chemistry); co-ordinator of InterMEDIU Science Shop and Ing. Irina Alexandrescu - staff member of InterMEDIU Science Shop.

Information material:

*a. Awareness materials* (sent before the Scenario Workshop to the participants):

- Invitation Letter personalised
- Information on InterMEDIU Information, Consultancy and ODL Department (leaflet available only on printed version)
- INTERACTS project short description
- Executive summary of the Romanian Case Studies Report/INTERACTS project
- Romanian Case Studies Report/INTERACTS project (full report was sent to participants that acted as interviewees for the case studies or on request to other 3 participants)
- INTERACTS Scenario Workshop leaflet

*b. Delegate information pack:*

- List of participants
- Program of the INTERACTS Scenario Workshop
- Preliminary Session presentation (copy of the overheads)
- Objectives and methodology of the workshop

**8.3.2. Participants**

- **NGOs:** Johanna Müller - SOR Iași; Dan Ionescu - CET Moldavia Pașcani; Cristi Șerban - APSF Roman; Corina Tofan – APSF Roman
- **Researchers:** Matei Macoveanu – Universitatea Tehnică “Gh. Asachi” Iași; Igor Crețescu - Universitatea Tehnică “Gh. Asachi” Iași; Laura Pricope - Universitatea de Stat Bacău; Cristina Modrogan – Universitatea “Politehnica” București; Ștefan Zamfirescu - Universitatea “Al. I. Cuza” Iași; Carmen Cătălina Ioan - Universitatea Tehnică “Gh. Asachi” Iași

- **Policy makers:** Maria Gavrilescu - Universitatea Tehnică “Gh. Asachi” Iași; Ion Balasanian - Universitatea Tehnică “Gh. Asachi” Iași
- **Science Shops:** Mircea Nicoară – InterMEDIU “Al. I. Cuza” Iași; Stefan Miron - InterMEDIU “Al. I. Cuza” Iași; Cristina Ichimaș – InterMEDIU Bacău; Mihaela Hristea – InterMEDIU Ch. Ind. Iași; Constantin Bobirica – InterMEDIU București

### **8.3.3. Presentation by organisers**

The preliminary session offered information about the following aspects (*presentation given by Carmen Teodosiu*):

- general context of science shops in Europe, the International Science Shop Network and, the Science and Society Action Plan
- organisational aspects and mode of operation of science shops in Romania; the network of Romanian science shops; the context of university-society relationships in the framework of a transition society; brief presentation of the workshops organiser and its projects
- types of requests and projects that can be realised through science shops and how can these contribute to an improved access of the society groups to scientific knowledge and at the same time have an impact at university level (modernisation of curricula, opening of new perspectives for collaborative research, acquirement of new skills that are important for students’ formation and their future career).
- description of the INTERACTS project and contributions of the Romanian partner (*State of the Art Report, Romanian Case Studies Report* were sent to participants prior to the workshop)
- context of the Scenario Workshops within the INTERACTS project and objectives of the workshop (the participants were informed that the application of the EASW methodology is a premiere not only for the organisers and participants, but also for the general format of Romanian participatory workshops).

The second part of the preliminary session was devoted to the presentation of the methodology of the scenario workshop (*presentation given by Irina Alexandrescu*), focussing on practical aspects related to group work and specific outputs (posters) during the vision making and action plans elaboration phases.

### **8.3.4. Workshop results**

#### **8.3.4.1. Visions Community groups (NGOs, Associations)**

The basic principle of the vision:

Science Shop will be an **active institutional framework** - a way to facilitate bi-directional change of information between those who study reality (social environment, natural environment) and those who benefit by these studies.

*Elements of the necessary background:*

- A continuous and active development of science, research and technology, especially inside the University
- A positive, effective and socially profitable evolution of NGOs, with the University support in terms of information, awareness and education
- Easy access to University as a source of information, education and a problem solving system, based on Science Shops as intermediary stations.

#### *8.3.4.2. Visions Science Shops*

The basic principle of the vision:

Science Shops will be “**open windows**” towards the civil society, as a formalized and acknowledged part of the University.

*Elements of the necessary background:*

- The science shops will facilitate effective communication, in real time, between the civil society and universities
- An important resource will be considered the adequate training and capacity building both for society organizations and science shop staff
- Awareness and educational programs realized through science shops will contribute to the stimulation and development of a dynamic involvement of civil society in the policy making process
- Institutional partnerships between universities, science shops and civil society organizations will be created
- A constant financial support of university- society co-operation will be provided through governmental funds and special fundraising activities

#### *8.3.4.3. Visions Universities*

The basic principle of the vision:

Science Shop becomes an “**information center**” concerning the requests formulated by the civil society and the local administration and also the scientific possibilities of the university to solve these requests, supported by an active and continuous communication between University and society as dialogue partners.

*Elements of the necessary background:*



- Specific science shop activities (multidisciplinary projects, practical work, experience exchanges, case studies) will be included in the University programs and will be officially recognized as curricula and research activities.
- A real and permanent financial support will enable University experts to solve specific problems of the civil society and local administration and to respond to capacity building necessities of NGOs (including continuous education)
- Partnerships with local administration institutions and NGOs aimed to identify and solve the problems of the civil society will be built and supported to develop
- Efficient and continuous dissemination of the solutions to all the requests will permanently and actively be present in mass media, publications, and public debates.

#### *8.3.4.4. Visions Policy makers*

The basic principle of the vision:

Science Shop becomes the “**institutional bridge**” that will support a more open and creative relationship between the civil society members and the scientific community.

#### *Elements of the necessary background:*

- University and civil society will build up a partnership based on:
  - University involvement in solving all demands from the social partners
  - University curricula and the research activity active adaptation to society need
  - University ability to enforce changes related to societal needs in order to influence more the governmental policy decisions and achievement of changes at the level of university management so as to create the **open university** profitably oriented to the citizens needs, knowledge and experiences
- Science Shops will constitute the institutional structures that will make the link between the University and civil society, on the basis of:
  - Proper communication between partners
  - Permanent dialogue
  - Adequate problem definition and correct formulation of specific requests
- Science Shops will be an intermediary system with certain principles and rules:
  - Active communication and collaboration forms: directly, IT tools, mass media, meetings, seminars
  - Policy makers support measures at the University level

#### *8.3.4.5. Common priorities*

1. Open, permanent and active communication between University and society will be based on: elaboration of strategic plans; inclusion of science shop activities in university curricula and research programs; minimization of bureaucratic barriers
2. Intermediary structures like science shops will respond to the requests of the civil society concerning: information, formation/ awareness/ education; sustainable partnerships based on joint projects and stable financing sources
3. Specific communication supported by the representatives of all stakeholders, mass media, IT means will promote the programs and the image of the target groups and support university-society co-operation
4. The visibility of the partners and intermediaries in university- society co-operation and their specific programs of collaboration is to be promoted further by specific activities and policy support
5. Financial and strategic support will be ensured at local, regional, national, international level inside a permanent, active and sustainable partnerships of university intermediaries with organizations of the civil society

### ***8.3.5. Proposals for future actions as depicted in the action plans***

#### Policy issues

- inclusion of separate statements concerning the university mission regarding societal problems and co- operation with society organizations in the University Chart;
- acknowledgement of science shops activities and their adequate evaluation;
- the development of certain programs (educational, post- graduate, professional reconversion) or projects through the science shops, in co-operation with university departments;
- more initiatives to increase visibility of the science shop activities and the university preoccupation towards societal problems, with the involvement of mass media partners;
- an initiative to sustain the financing of partnerships between university, science shops and NGOs should be supported and promoted by all partners or their networks at governmental level.

#### Organizational issues

- diminishing bureaucratic barriers related to the foundation of science shops in Romanian universities and of partnerships between NGOs, science shops and universities;
- the creation of a network that would envisage participation of science shops, NGOs, university representatives and local administration;

- the development of the Romanian network of science shops and the co- operation with the international network of science shops as a support for individual science shops and NGOs;
- improvement of communication and dissemination of different educational or professional orientation or training and information programs.

### **8.3.6. Implementation/ dissemination**

#### Implementation of results (already on going or planned)

- a. The Romanian Scenario Workshop Report is available now only in English and was sent as such to the participants at the Workshop;
- b. A seminar to analyse the results of the Workshop is planned on January 23 and by that time the participants will receive also a copy of the report in Romanian (NGOs, university representatives, other science shops, regional administration and policy makers will be invited);
- c. A discussion of the Interacts project results (based on the Case Studies Report already available at that time in the printed version) took place on 26.11.2003 with the Executive Director of APART (the National Agency for Co-operation with the economic and social environment in Bucharest, agency that acts now as one of the most important policy advisors for the Romanian Ministry of Education and Research);
- d. The Romanian Reports developed for the INTERACTS project have been sent to the other Romanian Science shops (organised now as a national network, INTERMEDIUNET ROMANIA, INRO);

#### Dissemination (press release produced, articles)

- a. An article concerning the results of the INTERACTS project (the Romanian results) will be submitted in February 2004 to the *Environmental Engineering and Management Journal* (that has a section on Education and co-operation with community groups, see also: <http://omicron.ch.tuiasi.ro/EEMJ/>)
- b. National dissemination of the INTERACTS project results using the following opportunities:
  - the national network of Romanian NGOs discussion list
  - the national conference of the Romanian science shops (June 2004)
  - the international conference concerning the university –society co-operation (UNISO, 2004)

### **8.3.7. Comments or reflections from organiser**

On reflection of the process of the Scenario Workshop, the organizers felt that the participants were extremely engaged in the visionary and thematic sessions, and communicated in a very open and direct way. This statement is based on the dynamic and motivated discussions during the scenario workshop, and the interest of the participants in creating a network (in which the participants prior to the scenario workshop had not felt a need for or had taken any initiatives to establish) with the aim to continue working with developing the co-operation between society organizations and universities through Science Shops as intermediaries. Due to this interest we feel that through the scenario workshop the participants were mobilized to take actions, and they understood that progress in the relationship between university and civil society comes only from communication, involvement and positive attitude.

Applying the scenario workshop approach required long time planning and intense team working but even though, we consider that this method is recommendable, because it gave room for discussions among people with the same or different group interests. The organizers' evaluation is that the workshop was a stimulating and also enjoyable experience and also a good response to INTERACTS requirements for representing national views on expectations surrounding science shops.

## **8.4. Suggestions for Policy Recommendations based on national experiences**

The following policy recommendations have been developed considering the results of the research conducted for the INTERACTS projects as presented in the following documents: the Romanian chapter of the State of the Art Report (2002), the Romanian Case Studies Report (2003) and the Romanian Scenario Workshop Report (2003). All these documents consider also the actual conditions in which the interaction between NGOs, universities and science shops takes place in Romania, and therefore might present specific aspects as compared to other European countries.

1. Science shops represent local intermediaries that contribute to an improved co-operation between universities and civil society organisations, in terms of both **research** and **educational** support. Their role in future and the possibility to effectively contribute to the democratisation of the civil society and its improved access to research, information and education are dependant on the capacity to encompass specific barriers related to *policy, legislation, funding* as well as to *organisation* and *communication* issues specific for the parties involved (universities, NGOs, science shops).

2. The science shop activities brought, at a local level, several contributions to the modernisation of curricula and research, i.e. flexible modules of learning/project based learning, inclusion of science shop project results into the regular teaching activity, post-graduate courses, multi-disciplinary research, formulation of new project proposals. The official acknowledgement at the level of Universities and Ministry of Education for this type of activities and the allocation of credit points for students and staff time for supervision is important for the continuation/initiation of new science shops activities and also for the subsequent involvement of students and staff.
3. The explicit interest of Universities towards societal problems and the subsequent support given to co-operation with society groups should be achieved by including these aspects in the universities mission statements and by developing special strategies for their accomplishment through the science shops (in relation to the curricula and research activities and the evaluation for both staff and students involved in science shop work).
4. The regional coverage and visibility of science shops in Romania, as well as the effective and accessible communication with society groups need to be improved. Thus, the support of university management structures and policy makers is essential in order to achieve the needed outreach towards society organisations and the network of Romanian Universities, but also mass media can contribute to this by presenting such examples of university- society co-operation and their impact.
5. Adequate funding and support from the universities and society groups can facilitate the science shop activities. In the Romanian context, this may vary from core funding to coverage of operational costs at the University level, administrative rules and financial autonomy of the science shops, acceptable charges paid by the client groups (i.e. from zero to full costs, depending on the client's ability to pay), publicity of science shop projects and advertising materials facilitated through university central structures.
6. The sustainability of science shops activities is to be viewed in close relation with the broadening of university preoccupations and facilitation of co-operation with different groups. The development of other programs (post-graduate, professional reconversion), co-operation projects, educational programs through the science shops represent such contributions and should therefore should be adequately supported by universities (eventually in co-funded programs), local and regional administrations.

7. The development and co-operation of society groups, science shops and universities should be supported by the specific policies of financing agencies at national and regional level (that would allow, for instance, participation at Call for proposals of consortia of universities, NGOs and science shops, such as applied for financing the Community University Research Alliances in Canada).
8. The development of the Romanian network of science shops, as well as the co-operation with the international network of science shops are important means to improve communication and co-operation between universities and society groups but also for the support of individual partners (access to information/co-operation/training, sharing of experiences).

## **8.5. Produced reports and materials**

### **Reports:**

C. Teodosiu, A.F. Caliman, C. Catrinescu: *State Of The Art Report - INTERACTS EC project "Improving Interactions between NGOs, Universities and Science Shops: Experiences and Expectations"*, 2002, p.72-83

C. Teodosiu, D. Teleman: *Romanian Case Studies Report - INTERACTS EC project "Improving Interactions between NGOs, Universities and Science Shops: Experiences and Expectations"*, 2003, p.1-117; Publisher: Technical University Lyngby, Denmark ISBN: 87-90855-50-7

C. Teodosiu, I. Alexandrescu: *Romanian Scenario Workshop Report- INTERACTS EC project "Improving Interactions between NGOs, Universities and Science Shops: Experiences and Expectations"*, 2003, p.1-66;

### **Oral presentations/material:**

C. Teodosiu: *"University- society interactions through science shops in the European and Romanian context; the INTERACTS project"* presentation held at the Romanian Scenario Workshop on June 24, 2003.

I. Alexandrescu: *Scenario Workshop methodology*, presentation held at the Romanian Scenario Workshop on June 24, 2003.

C. Teodosiu, I. Alexandrescu: *"Presentation materials for the Romanian Scenario Workshop"*, 2003

## **Appendix 9: National Summary: Spain**

### **9.1. National context (key points from SAR)**

#### **9.1.1. Background trends**

##### *9.1.1.1. Discourse on science and society*

The nature of the official Spanish speech on science and society is gathered in the introductions of Law of 13/1986 Promotion and General Coordination of Scientific and Technical Research; as well as of those of the national and regional Plans. Scientific and technological policy is considered relevant for the social and economic development and the General Administration of the State has the mission of “strengthening basic research” and “create a favourable climate so that the companies join totally the culture of technological innovation” with the purpose of increasing their competitiveness.

Thus, among most of the present Spanish institutions (national, regional and local governments as well as universities and great public research centres), the meaning of the relation science and society consists mainly of facilitating the access of the companies and the public institutions to the resources of research of the Universities and to finance public and private research centres. As far as the associative weave, the only recognised interlocutor is the unions of workers.

Some critical voices have been raised that censure the little productive innovation that this system gives as result, but they attribute it to the low private cost, to the lack of doctors and the little interdisciplinary. After the war of Iraq, the government has increased the cost in military research programs and at the moment the new Plan of Military Investigation 2004-2008 enters.

A second institutional meaning of science and society that has become general for a quinquennium in Spain is the one of diffusion or spreading of science and technology “with the aim to create that necessary scientific and technological culture among the citizens” (Fecyt 2001). To this it responds the creation of Foundations of scientific spreading, of the Museums of Science and the celebration of events like the “science weeks”.

On the other hand, great NGOs and unions have felt the necessity of advanced

knowledge in different specialities to debate environmental policies or workers' health, so since 1996 they have been equipped with their own cabinets of studies and research. From these institutes collaborations settle down for individual purpose with University researchers , but without the same one mediates.

Many of the local citizen associations that have been created in the Spanish cities collaborate or have among their members technicians or researchers. The Faculties of Sciences of the Education make their practices in districts associations . The voluntary military service counts on institutional recognition and counts on a Secretariat in the regional government of a great number of independent communities. they consider without right to ask for collaboration of the University to solve its necessities of concrete knowledge.

From the Universities several lines of collaboration with society are developed: the control of society on the budget and the management of the University (through the Social Councils); the practices of the students in companies, civic associations and research groups of the University; the NGOs created in the different Faculties of the Universities for the cooperation from the local and global development (Engineers without borders, etc.) or of students.

With diffusion character and to give the citizenship access to knowledge, a supply of open lessons (Program of cultural Extension) with diverse courses of specialisation (50 hours) to people without degrees exists in almost all the Spanish Universities; as well as the Classrooms of Adults.

These are, without a doubt, diverse routes of encounter between science and society.

#### *9.1.1.2. Political framework*

In the last 15 years there has been a continuity in the scientific policy. Beginning by a government headed by the Socialist Party, that sent in 1986 the Law of the investigation or the one of the Universities. And following with a government headed by the Popular Party that in 2000 created a Ministry of science and technology and that at the moment concentrates the policy of promotion and general coordination of scientific and technical research, of technological development and the arrangement of the communications.

Since 1986, every four years a national and regional plan that finances high-priority research through specific programs is carried out. The different regional governments count on Councils of industry or education, within which the science plans are managed.



And also regional and local agencies of technological development have been created.

In 2001 the Spanish Foundation for Science and Technology started up at national level, ordered among other things to “potenciate the spreading of knowledge in the matter of science and technology, with the purpose of creating that necessary scientific and technological culture among the citizens”.

Every year the cost in R+D has been increasing until locating itself in the 1.2 of the GIP.

The new Law of Universities of 2001 reinforces the Social Councils of the Universities as people in charge of the relations with society, giving them a greater protagonism within the institution; and they enjoy autonomy to decide their social composition. It continues the promotion of the collaboration with the companies. The policy of practices in companies and associations continues in the new law and it is repaid to the students with the obtained credits.

The new National Plan of Scientific Research, Development and Technological Innovation for the period 2004- 2008 has included among its high-priority lines the one of “increasing the level of scientific and technological knowledge of the Spanish society”. The Law of voluntary service 1996 is an instrument for the state that guarantees the citizens to express their commitment and solidarity. Implicitly it forces the state to recognize and promote voluntary performances and promote financiers means to impel the social impact of its activities.

#### *9.1.1.3. Funding regulation and networking*

The financing of the research from the national and regional plans of science, goes fundamentally to the companies and the research projects of the universities.

The associations have the opportunity to obtain financing for their projects going to the funds of the departments of regional, provincial or local government.

Also the Foundations of financial organizations as the Savings banks have a fund for studies, research and events.

The way to finance science shops in Spain is presenting research proposals to the competitions available, without at the moment specific funds within the Universities exist to stimulate the collaboration between the Universities and the associations in research projects.

Through the informal collaboration and of individual character between associations and investigators, Spanish science shops are connected informally at local level, with Ngos and institutions, specially on the basis of the projects that they develop together.

There is already certain diversity of organizations and networks in Spain, as well as publications that deal with the science and society subject.

#### *9.1.1.4. The NGO society as potential clients*

Spanish citizens are increasingly organized in civic associations of common worries and interests and they put pressure for answers on research and political institutions. Ecologist, neighbours and consumers associations are very active.

With the support of internet, associations network are organizing themselves in regional and national Federations and they lobby for participating in decision making in different domains.

In the last years the public opinion influence of social movements has increased due to the political and technical “misleading decisions involved in ecological disasters as the heavy metal pollution of Doñana Natural Space, the “Mad Cows” crisis, the sinking of the tanker “Prestige” in the atlantic coasts, and other events.

Small NGO’s have scant access to funding and autofinance themselves with inscriptions and events they organise. Their administration is based on voluntary work. They do more dissemination than participate in research; although they organise debates and workshops.

On the other hand, great ONGOs and unions count on administrative infrastructure and equipment to position themselves before public policies of environment, labour health. They usually collaborate with researchers of the Universities, but not always they yield the scientific direction.

In general, associations need assessment in preparing technical proposals to apply for funding. They also need some assistance in project management and application versus dissemination of results.

#### *9.1.1.5. Institutional framework*

The Plans of Research and Development, at national and regional level, are the

instruments that formulate the support program every four or five years.

The Public Centres of Research, of the Council of Scientific Researches and the different Ministries, along with the public universities, and the research centres of the regional and local governments constitute the supply of research of the public sector in Spain.

The OTRISs. - Since the law of Universities of 1986 for more than one decade structures of mediation have been working in all the Spanish Universities called Offices of Transference of Technology (OTRI) that take care of the administrative and financial management of contracts with companies and the projects of investigation financed by national or international Programs. Of this mediation beneficiaries have been mainly the Faculties of technological studies (engineering, biology, etc.). But after a modification of the contract law of the State at the beginning of the 90's, favouring the hiring of studies to the University and Foundations with respect to private organization, public institutions more and more go to order their studies and researches to the University. Which has favoured the increase of the research projects in social sciences (economic, sociology, anthropology, education, tourism, etc.).

The Social Councils. - Also, the Social Councils of University, created with the Law of Universities of 1986 as new organs in charge of the relation between the University and Society, are formed by public institutions, financial companies, organizations and unions. They take the financial control of the University and produce reunions and technical studies in order to emit recommendations on the content of the degrees to adapt them to social demands.

Institutional vehicles for the diffusion of science are the samples of the Museums of Science, that come creating in diverse Spanish cities since 1987; and at the moment the weeks of Science that are celebrated every year at the beginning of November with the collaboration of more and more organizations. Also the activities of Cultural Extension and Classroom of Adults of the Universities are diffusion.

In all the Spanish Universities, the students and professors have mounted associations that are oriented to foster the application of their knowledge to concrete social communities. They are NGOs created in the different Faculties of the Universities for the cooperation from the local and global development (Engineers without borders, etc.) or of international students.

Several associations and networks that foster the culture of the scientific evaluation

among the citizens exist in Spain (Network ACS Asociación de Científicos Españoles)

#### *9.1.1.6. Political trends*

The incorporation of the new principles of governance and the participation of society in the public decision is felt in Spain. The Foundation of Science and Technology has incorporated this communication in the revision of its objectives for 2003. In the recommendations of the FECYT in its evaluation of the previous national plan it includes that the proposals in which the different agents come together must be prioritized; to persecute a greater adaptation to the necessities of the industrial weave of our country and to favour the development of interdisciplinary groups. All of those objectives are coherent with the science shops projects.

The rough draft of the New plan of research 2004-2008 includes a Programme of important dissemination as well as the promotion of the networks.

The pressure of the civic associations is increasing, at the same time informal collaborations between associations and professors of the universities intensify. There is a tendency to that the own associations are structured in networks and acquire greater capacity to become involved in joint projects together..

A route of development of the mediating associations, or Science Shops, linked to the University in Spain, can be hoped that it comes from the sensitivity of the Social Councils of Universities towards the demands raised by the local associations in relation to partner-technological problems in their surroundings.

The new 2002 organic law of Universities has increased the power of Social Councils of Universities. This new frame gives an opportunity for civil society to have a representation inside them and promote their research priorities. The Social Council of the University of Seville shall probably be the first one in Spain to include a science shop inside its organs after the result of the INTERACTS workshop organised in June 2003 in Seville. The social council of Seville also has capacity of influence on the regional government and on the national university domain for being inside the National Federation of Social Councils of Universities. This way its example could soon be followed by other universities. (The regional legislation of development of the national law they is being elaborated).

Every time more projects are undertaken in which the associations and the departments or groups of universities collaborate in a more or less formal way. In addition, the figure

of private Science shops continues presenting the advantage of their smaller bureaucracy and management complexity, with respect to any public organization or even association, foundation or cooperative, when it is to make a mediating function.

The Spanish Parliaments will necessarily have to play an important role in the next years to promote society's participation in knowledge.

### **9.2.2. Overview of Science Shops in the country/region**

Each University in Spain counts on associations within its Faculties, that have been constituted to apply their knowledge to the communitarian or international development. Some are only of students and others are of students and professors. They make projects of science shops in collaboration with local associations that demand them. "Architecture and social Commitment", "Engineers for development", "University and Social Commitment", "the Bazaar of Sciences" belong to this group.

Other traditional citizen organizations collaborate in the scientific promotion. El Ateneo Verde, el Ateneo de Sevilla, etc belong to this type.

Also some great associations and unions have created cabinets or foundations of technological evaluation that collaborate for purpose individual with university researchers . ISTAS (CCOO), or Ecologists in Action belong to this type.

The Social Councils of the Universities, led by the one of the University of Seville constitute a fundamental pillar to shelter the science shops of the departments and faculties.

The Museums of science can also be considered important actors in the future of science shops.

The small companies of social economy are agile science-shops. The case of Pax Mediterranea belongs to this type.

## **9.2. Case studies**

### **9.2.1. Criteria for case selection**

The choice of cases is based on the following criteria: different **territorial scope** of the problem: (neighbourhood, city; national; different field research field: social sciences,

architecture, industrial process). Different **communitarian groups that participate** in the investigation: members of ngo's, students of architecture, workers of the industry of the cement. Different **mediating science-shops profiles**: independent company, within the University, tied to a Union. **Area of political intervention**: environmental policy; housing and building policy; industrial and biological risk policy.

All the cases agree to INTERACTS study requirements: to be complete; recent with impact and initiated by small NGOs.

### **9.2.2. Case 1: Urban Ecology Strategy Design, Seville 2025. Pax Mediterranea s.l. 1999-2000.**

Supporting associations of the minority Green party of Seville complained that the program of the party for the municipal elections had been elaborated without considering its point of view and interests and that it would have to be a program that gathered Agenda 21 for the city. Therefore, they solicited through Pax Mediterranea and the University of Seville to carry out the study applying a new and still little well-known participative methodology in Seville: the scenario workshop (EASW). A methodology of decision making that presented by the EC makes possible the joint elaboration of strategies and actions incorporating the points of view of the different social sectors. The result was displayed to mass media and was object of a scientific publication. The Elaborated Agenda is used as a guide and is consulted in the debates on environmental strategies of the city since parallely the City council has been elaborating a Strategic Plan and a Plan of territorial Arrangement for the city.

#### *9.2.2.1. Fact sheet*

National title of the report: Sevilla 2010, metropoli ecológica. Aplicación de la metodología participativa Europea EASW.

English title of the report: Sevilla 2010, ecological metropolis. Application of the European participatory methodology EASW.

Request: Made by NGO to Science Shop

Aim: To undertake participative research to identify the key environmental issues of Seville and outline program Agenda 21 (scenario and strategic action plans) supported by the ecological movement associations and institutions. Agenda 21 had to take into account present ecological concerns, how to address them, and forecasting to the year

2025. An additional objective was to familiarise civic associations and green movement institutions of the participatory methodologies potential and application procedures.

Duration: 3 months for gathering data and preliminary results. Two years in the time until the publication of the book.

Students: participated as members of green associations.

Costs: 2.340euros. Met by NGO Ateneo Verde-Los Verdes; Pax Mediterranea and the Sociology Department of the University of Sevilla.

Outcomes (publications, delivery and dissemination activities): Program, Poster, mailing, Methodology booklet and description of the project for participants, short summary of the findings as Agenda 21 for Seville was presented by Los Verdes in a press release days before the elections; a book which used the findings in a comparative study and was also released in a formal launch a few months after the issue;

Working methodology: The methodology used for this project was an adaptation of the EASW (European Awareness Scenario Workshops) method. The NGOs members participated in the organization and data gathering. Around 30 persons, representing different social groups met along twice in two weeks to work on the review and selection of the key ecological issues and strategies in Sevilla. A workshop to plan actions for the main four issues were organised twice in the next two weeks. The last workshops gathered persons from varied social perspectives in order to check feasibility. The results of each workshop were registered and reported by its participants in plenary sessions. A preliminary brief report was issued and later a more in-depth and comparative analysis of the data was produced.

Interviews: Alain Labatut (Science Shop: Pax Mediterranea SL); Ricardo Marqués (NGO: Ateneo Verde and Los Verdes Party); Dr. Teresa Rojo (Scientist/University: Dept. Sociology Universidad de Sevilla); Dr. Manuel López Peña, (Study Group Participant: Director for the Sociedad para el Desarrollo de Vega).

### **9.2.3. Case 2: Architectural Study for Romany Community, “Los Perdigones”. *Arquitectura y compromiso social 2002.***

A romany community that had moved out from the Expo land in 1991 into abandoned terrains of the city of Sevilla was again menaced of displacement as city land projects planned for a park and housing lots in the site. The Association of Human Rights in

Sevilla, with the support of other associations, requested from the Architects and students association “Arquitectura y Compromiso Social” to study the options for them remaining in the site considering the Andalusian Plan to rehabilitate shanty towns.

A contest was organised open to architects and last years students of the Architecture School of the University of Sevilla to design a building attending the requirements of the Romany community with hall and areas where they could gather and also to store their vehicles and working materials.

There were twelve submissions of workable designs for the Romany Community housing project with full graphic designs and plans both for the layout and the houses as well as financial estimations of the project. A jury evaluated the proposals and chose the best that were presented in public event. Diverse common interactive activities were carried out between students and community members.

#### *9.2.3.1. Fact sheet*

National title of the report: Estudio arquitectónico de la Comunidad Romani “Los Perdigones”.

English title of the report: Architectural Study for Romany Community, “Los Perdigones”

Request: The Science Shop (Arquitectura y Compromiso Social) was contacted by the NGO (Pro-Derechos Humanos) to see if they had any ideas on what they could propose to keep the community in the land they had occupied since 1991.

Aim: To elaborate an architecture project proposal to submit to the municipality authorities on rehousing a romani community in the same location they were occupying in shanty town. The design had to comply as far as possible to the demands of the Romany community, keeping in mind their needs for a community hall and large areas where they could store their vehicles and working materials. The frame being the “Plan Andaluz de Rehabilitación de Núcleos Chabolistas” (Andalusian Plan to rehabilitate shanty towns).

Duration: 1 ½ months

Students: School of Architecture. Univ. of Sevilla.

Costs: Minimal costs met by NGO (Human Rights) and Science Shop (Architecture and



Social compromise).

Outcomes (publications, delivery and dissemination activities): There were twelve submissions of workable designs for the Romany Community housing project with full graphic designs and plans both for the layout and the houses as well as financial estimations of the project. A Jury decided the most feasible project proposal. A public presentation of finalists projects was made in the School of Architecture/ Univ. Sevilla.

Working methodology: A public contest was called for the study and design of 38 houses, a community hall and community storage with building capacity of 5.274 m<sup>2</sup>, allowing a height of up to 5 floors in one plot and 4 floors in two smaller adjacent plots. The contest was open to architects, architect students and other multidisciplinary teams which counted with at least one architect. The teams could be of any nationality and one of their members would be named coordinator, representing the team in its totality. The proposals had to accommodate to the land available for housing as well as some of the other adjoining plots. The participants were given support in the form of working sessions, meetings with the Romany family representatives, other neighbours in the area and experts in the area of social cohesion and support. The participation at these meetings were considered vital for the development of realistic solutions to the project.

Interviews: Ventura Galera (Science Shop: Arquitectura y Compromiso Social); Ignacio Mechon and Antonio Pardo Silva (NGO: Asociación Pro Derechos Humanos de Andalucía); Jesús Rojo Carrero (Scientist/University: Durán Rojo Architects).

#### **9.2.4. Case 3: Health and Environmental hazards at cement kilns waste incineration, ISTAS Madrid 2000/2001**

Incinerating waste in cement kilns has gone for years in Spain, but in 2001 when the mad cow disease came about, those animals represented tons of waste to get rid off which is a technical and a social problem. Then cement manufacturers reached an agreement with the government by which they would burn them in their plants. But seldom thought had this policy given to the impact on cement plant workers and residents from burning biologically contaminated waste. The problem escalated at a very fast rate due to the media coverage and government decisions at the time.

The labour union CCOO listened to the claims of various associations and asked ISTAS to compile research on this issue, to search for experiences in other countries and to address to specialized researchers on health and risks hazards at cement kilns waste incineration. Visits to the plants and measurements were carried out and relation was

maintained with institutions and with firms association to discuss the subject.

The findings and recommendations provided as a result of the study have been threefold, firstly manipulation processing of the animal meal was questioned and recommendations were made with regard this process, secondly risks were found to be high, above regulations standards, when incineration was used as waste management and thirdly an alternative waste management procedure of investigated and proposed as a solution for the second problem.

The study increased confidence of the population in regards of the policy option but increased awareness on the need to study health risks and hazards of incinerations and improve their technology and sites.

#### *9.2.4.1. Fact sheet*

National title of the report: Riesgos de salud y medioambiente en la incineración de basuras en plantas de cemento.

English title of the report: Health and environmental hazards at cement kilns waste incineration.

Request: Made by Trade Union CCOO to ISTAS foundation on environmental risk (INSTITUTO SINDICAL DE TRABAJO, AMBIENTE Y SALUD - CC.OO.)

Aim: The first objective of this project both for the Science Shop, ISTAS, and for the NGO, CCOO, was to find out what, if any, risks there were in the incineration of cattle meal in kilns. Secondly there was, and still is, the objective of this study had to outline workers' requirement in form of guideline interactive dissemination of the diagnosis, on available evidence, to general public, NGOs and organisations, through training, meetings and publications particularly for workers involved in this type of work and the citizens who live near the kilns which carry out this activity. Thirdly, and linked with the first, was to provide, if feasible, an alternative solution for waste management. Fourthly to provide recommendations on waste management policy at national, regional, local and industrial levels.

Duration: 2000 – 2001 (14 months)

Students: workers in the cement plants contributed

Costs: around 100.000 euros funded by the trade Union CCOO.

Outcomes (publications, delivery and dissemination activities): Booklet; National Press conference; Various local press conferences; Verbal presentations to cement kiln workers throughout Spain; Partake in round tables within various forums; International distribution of findings via web page and individual requests; Use of the results by the Scientific Commission at the European union level.

Working methodology: The methodology was one of investigating research and scientific results from studies made into incineration, particularly that carried out in kilns and of incinerating animal meal. Direct contact with scientists in the area of environmental risk, the Ministry of Environment, the employers, the manufacturers association, as well as review literature obtained through internet and especially abroad, information on kilns and dioxins from other organisations in EU and US. Visit kilns; Training and dissemination on health risk information. Evaluation of a possible working alternative model for residual management by agricultural use of the animal meals.

Interviews: Estefanía Bount (Director), Miguel Crespo (Main technician involved) from Science Shop: ISTAS <sup>9</sup> is a self-funded technical foundation. Carlos Martinez, technician of Spanish Trade Unions Confederation (CC.OO.) <sup>10</sup> is a democratic Union organisation and umbrella body for State Federations, National Confederations and Regional Unions. Juan Romero Agud, NGO member. Fernando Pomares García, Head of Area Fertilisation and Soil Conservation of Instituto Valenciano de Investigaciones Agrarias (IVIA), expert on biodegrading residuals via composting.

### **9.2.5. Impact and policy evaluation**

a) Increases knowledge capacities of social actors: the science shop, university researchers and students, workers, community associations, enterprises

Research project on the incineration processes and biologically contaminated waste; provided advise on social and environmental impact of policy choice; raised awareness of citizenship; technicians, firm managers and policy makers on hazards and risks and how to diminish it and on the need to modernise and improve the technology of the plants as well as the environment of the incineration plants sites in order to reduce pollution (building expertise).

Research on architectural solutions to integrate a marginated community produced

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<sup>9</sup> Source: <http://www.istas.net>

<sup>10</sup> Source: <http://www.ccoo.es/pdfs/estatutos.pdf>

knowledge that benefited both the community as well as the students, the University researchers, the association of human rights, the property and the local city administrators.

Different social actors participating in the project to conceive Ecological Action Plan learnt methodologies to concert views on technical matters and prioritise strategies and actions. They have since then incorporated participatory methodologies in their projects (Plataforma Pumarejo, Environmental Education Strategy elaborated by the Regional Government). It was also a good training for associations to participate afterwards in municipal planning processes taking place.

#### b) Socio-technical networking.-

In the cementries combustion research project, a link was established among the participants, enterprises and the public administration as a national network with capacity to provide advise regarding incineration risks and process improvement.

In the project of architectural solutions to integrate a marginal community, the network of contacts between organisations promoted the political change of the local city administrators (who had failed to make a democratic urban renewal program) and they continue to collaborate in raising the issues and demands of depleted neighbourhoods in Seville. The fact that the institutions and the property did not take part in the jury of the contest indicates a rupture of the collaboration with those actors during the project.

Network relations established between the University, science shop and associations during the project of the Ecological Strategy and Action Plan on Seville, is fructified through a new project to combine local capacities in raising environmental awareness in popular neighbourhoods of Seville province. This project has recently received financial support from the regional government. Another visible impact is that through the project, the university researchers have contacted and established links with the local network of urban development associations and technicians “La Sevilla que queremos”, opening the way to further common research projects. (This network has recently obtained support from the municipality to elaborate new media to communicate with the Seville neighbourhoods).

#### c) Preventing technical risks.-

The study on cement factories combustion played a role of calming the fears of health risk raised among the population. The visits to the plants and areas by a team of

specialists discussing the facts played an important role on that as its contribution to disseminate knowledge. The client considers that the study also contributed quite a lot to slow down the use of hazardous waste in cement kilns in Spain.

The project of architectural solutions to integrate a marginal community meant an effort to solve a technical and social problem providing knowledge and common understanding. Architects had to communicate with users to design a building adapted to their culture and life styles. Even though the project was not developed by the municipality, students and neighbourhoods shared experiences and partied together as farewell. All these technical and social support assured that the romani community members were provided with adequate accommodation in other parts of the city.

The project of forecasting environmental challenges and actions for Sevilla is an effort to identify the urgent issues that have to be tackled to prevent environmental damage. The method applied to the research is one that involves representation of the city social actors and builds on previous studies

d) disseminating knowledge.-

The cementries combustion research was also a contribution to disseminate knowledge and increase interest on the technical issues, specially regarding the importance of workers risk prevention in the manipulation of mad cows meat to increase guarantees (a guide was elaborated). The findings of this project are freely available in internet as well as through ISTAS and CCOO.

The dissemination of the project on architectural solutions for spatial integration of marginated communities was done through public exhibition of the projects in the School of architecture as well as a presentation in the plenary hall. All this was covered by the regional and local media. Learning on other cultures and on building design was also shared by the participants in the project.

The dissemination of the Ecological Action Plan elaborated through participatory public opinion methodologies was done through a book published, press releases, presentations in conferences or meetings dealing with Sevilla's ecological problems (energy, environmental education). Training on the participatory methodology applied were requested from a Urban Women' association (Sururbanas) as well as from a technological center on water (both in the process of organising social debates on technical issues). The book has been distributed to decision makers involved in the elaboration of the Economic strategy Plan and the Land Plan of the city of Sevilla.

### **9.2.6. Evaluation for policy purposes**

Science shops accomplish a diverse function: they connect the actors of local science and society systems; approach citizenship to technological debate; increase social understanding of technical complexity and to provide reliable facts to support technical decisions.

The involvement of Universities in the Spanish case is short, considering the capacities in terms of qualified human resources. They are not so much making profit of this anxiety for knowledge and technical debate that local associations currently demonstrate in order to update their capacities and adapt their students training to society's technical requests.

This can be due to the lack of incentives and scientific community recognition. The presence of a science shop is an incentive in itself for university researchers because the project management is one of the tasks that researchers try hardly to avoid.

On the other side Science shops count on very limited financial support lines as there are not at all recognised in the legal or financial framework of the science and society system, mostly oriented to enterprise competitiveness.

It is recommended that science shops' research pattern is made known to institutions and specific budget lines are open inside national and regional research plans to support and value civil society involvement in research projects, as another actor together with universities and enterprises, as well as the need for professional mediation to achieve the objective.

## **9.3. Scenario workshop: The Future collaboration between University and Civic associations in Seville, June 2003.**

### **9.3.1. Basic reference data**

Country, location: Spain, Seville

Title of the workshop: future collaboration between University and Civic associations in Sevilla

Date and duration: 24th June 2003. Duration: One day.

Moderator/organiser: Alain Labatut ( Pax Mediterranea); Carmen Gago (Social Council University of Sevilla).

Information material: Brochure: INTERACTS Workshop (2 pag.); Action Plan: Science and Society. E. C; Brochure: Science and Society in Europe (2 pages); Report: Prospective and participative reflection Workshop (20 pages); Report: Science shop model for scientific mediation (22 pag.)

### **9.3.2. Participants**

- **NGOs:** José Carlos Cutiño-Riaño (Consumers and Users Associations Federation of Sevilla); Luís Hornillo Pulido (Casa del Pumarejo Platform); Esther Polanco Yaque (Labour Health and Environment Secretary (Andalusia Workers Commissions Trade Union); José David Gómez Blázquez (Ateneo Verde Sevilla); Vicente Manzano Redondo (University and Commitment); Francisco Gabriel Vilches Lara (Ecologists in Action of Sevilla).
- **Researchers:** María Pilar Colas Bravo (Education Sciences/US; Antonio Córdoba Zurita (Physisc of the Matter/US);Antonio J.Márquez Cabeza (Vegetal Biochemistry and Molecular Biology/US); Francisco Sierra Caballero (Publicity Journalism/US); Ramón Queraltó Moreno (Philosophy and Ethics of Science/US); Ángel María Casas Gragea (International Economy and growth/U. Huelva); Francisco J. Heredia (Colour and Food Quality/US);Teresa Rojo (Sociology and Public Opinion/U.S).
- **Students:** Manuel Romero Velázquez (Engineering Students International Association ESTIEM); Luís Rodríguez Herrador (Engineering Students International Association ESTIEM).
- **Science Shops:** Esteban De Manuel Jerez (Architecture and Social Commitment); Carmen Gago Bohorquez (Social Council of the University of Sevilla);Ana María Pérez Moreno (“Andalucía Investiga”). Junta de Andalucía; Paula Rodríguez Modroño (Regional Development Institute Foundation./US); Luís Andrés Zambrana (University and Social Commitment Network/US; Valeriano Ruíz Hernández Renewable Energy Andalusian Institute /US; José Antonio Borrero Rubio (Research Results Transference Office. OTRI/US; Alain Labatut (Pax Mediterránes s.l.)
- **Policy makers:** Rosa Hermoso Martínez (Sevilla Town Council. Woman Delegation); Miguel Presencio Fernández (Consejería de Asuntos Sociales/Junta Andalucía); Santiago Ledesma Martín (Andalusian Research

Plan/Junta Andalucía; Rosa M<sup>a</sup> Muñoz Ramón and Dolores Mantecón Romero (Sevilla. University Community Assistance Service, SACU); Pedro Moreu de León (Master on Technological Management and Prospective Studies (School of Engineers/US)).

### **9.3.3. Presentation by organisers (name and title/topic of the speakers at the workshop)**

Ana M<sup>a</sup> Ruíz-Tagle. President of the Social Council of the University of Sevilla “Citizens access to participate on science and technological decisions. Tendencies”; Alain Labatut. Pax Mediterránea s.l. “Scientific Mediation: The European Science Shop Model”; Francisco Fernández. European Commission-DG. Enterprises. “Participative Methods on Technology Transference. GD. Enterprises Experience 1995-2002”.

### **9.3.4. Workshop results**

- **Visions of the different Interest-groups: Science Shops** (to make a RDT policy adapted to social problems; to train “citizens” and provide the “science-shops” with means for mediation), **Researchers** (scientists acceptance of new social demands; solve financial restrictions, raise citizen sensitivity and build on existing “science shop” alike entities), **NGOs** (to reduce private control over scientific knowledge and integrate civil society self-management in knowledge and action), **Policy makers** (to enlarge institutional awareness and promote participation of associations and institutions)
- Common priorities (desirable scenario): INSTITUTIONAL AWARENESS in the promotion of research related to social needs; TRAINING for CITIZENSHIP: teaching committed to present local and global problems; RTD POLICY ORIENTED TO SOCIAL PROBLEMS RESOLUTION; BIGGER PARTICIPATION of associations and institutions in the process of scientific and technological production to civil society request.
- Proposal for future actions: PROMOTING MEDIATION BODIES ( Activities: To create mediation organ in Social Council of the University and Observatory of social demands. Tasks: Participation and debate forum; Scientific disseminators training- Researchers recognition); TO BRING SCIENCE/ TECHNIQUE NEAR SOCIETY (Activities: RDT diffusion involving Mass-media. Tasks: Publications (comics for young people); TV documentaries; Thematic halls, forum); “SOCIAL CENTRE OF RESEARCH”(Science Shop in Social Council) (Activities: Research focus on risks prevention; office Mediation and financial management; Integrates students and professors in projects. Tasks: Rewards and diffusion of good examples; Markets



and fairs-Physical and virtual spaces shared by Researchers and social movements). PARTICIPATION IN SHARED PROJECTS (Activities: In raising the problem; in Mixed research teams; in Implementing solutions. Tasks: identify aware Institutions and NGO's).

#### **9.3.5. Implementation/dissemination**

- Implementation of results (already on going or planned).- The Social Council of the University of Sevilla has decided to publish the results and approve in their Session an action Plan to be financed by the Social Council Member Organisations (Regional Government, banks, etc.) and by request for support to other national or European bodies.
- Dissemination (press release produced, articles etc. done or planned): Edition of the report in Spanish. Internet review of the report and the action plan proposal. Elaboration of final draft proposal for discussion and approval by the Social Council. Publication of the report by the Social Council of the University of Sevilla and Pax Mediterranea s.l.; article on spanish findings in the Interacts project in Review ANDULI of the Sociology Dept. of Sevilla, special number on Science and Society January 2004.

#### **9.3.6. Comments or reflections from organiser**

When organising the workshop, the local science and society system was considered mainly formed by four social groups (civic associations, researchers, mediating agencies, and public administration institutions). A representation of each group was called to meet and discuss together about the future collaboration between universities and civic associations.

Each group provided its views on the question, and stressed initially different aspects but they all agreed that greater awareness of institutions, the need to sensitize citizens about science and scientist work; and are in favour of building up the University Science-shop network supported by mediation initiatives in progress, inside and out of the University and under the Social Council; and that teaching deals more present problems (global and local).

- It can be confirmed that we assist to the elaboration of the 'draft certificate of foundation' of a Science shop in Sevilla, inside the Social Council with a very specific programme oriented to participatory research on risk prevention. And that the new centre is supported by the existing structures and initiatives for the development of

activities. That is, on the one hand the Social Council management and on the other hand civic associations and existing mediation organizations in the University can participate. Those researchers, who attended the Sevilla Workshop, constitute a potential talent for scientific collaboration from the University.

- Many of the activities proposed are relatively easy to apply so they could be implemented in the 'take off' stage. This is the case of rewards to research and researchers who have solved social problems. (Example. Isofoton); the creation of a virtual space of supply and demand of research on risks prevention; or support the launching of some projects following a participatory model conceived in the workshop.

- Attaching an observatory to the Science shop is also a question of interest since its role of elaboration of specific science indicators which permits to analyse researchers' efficiency, social needs of research. and so on. This coincides with the proposals on the necessity of incentives for researchers made by other groups. Additionally, the idea is strongly supported by the Senior Professor of Philosophy on Science of the University of Sevilla, Ramón Queraltó, who has experience in directing research on ethics of science.

- The activity of promoting pedagogical materials to train citizens: fairy tales, comics and documentaries is also something quite easy of being carried out through contests. The same can be said about the proposals to disseminate science in leisure culture; an aspect which attracts mass-media.

- A strong lack of scientific spreading was detected in the knowledge citizens have about University and scientific work, in the degree of citizen sensitization to science. This question received proposals of all the thematic groups, recognizing that in the lack of groups and organizations which spread science in Spain there is a phase out with respect to the average of European countries. The preparation of pedagogic material and media documentaries was seen as urgent.

- It calls the attention that two teams stress in their single action proposal that the Social Council of the University of Sevilla be the leader of implementation of the Action Plan.

- It is important not to forget that in order to achieve the development of the Action Plan proposals, the presence of the organizations that have planned and conceived them through the workshop is an obligation. Because there are always many nuances that cannot be transferred in just a meeting day and of their collaborative attitude.

Besides the action plan elaborated, the workshop helped to build a network on science

and society issues around the University of Sevilla.

#### **9.4. Policy recommendations based on national experiences**

The Spanish system of science and technology is advanced enough in establishing relation between the Universities and the Companies, but is little aware, neither of the value of folklore, local knowledge and popular necessities (which are source of the diversity and technological innovation); nor, consequently, of the role of civic associations in the technological pull.

The own Law of Spanish Science needs to be adapted to the amplest concept of science and society, which involves citizenship as direct beneficiary of the public research resources. All the Spanish legislation is excessively oriented to the research for the competitiveness of the companies, without considering the users, which is demonstrating to be an obstacle to technological innovation.

From the university institution and the regional or national institutions there is little institutional capacity to involve the most dynamic local social actors. The programme science and society of the European commission is an opportunity so that this encounter is made within a frame of rationality and good understanding. A great necessity is observed at local level of mediating organizations to carry out this approach since they have many common preoccupations but few platforms of reunion.

The collaboration effort is urgent since the positions are in process of radicalization . Because this temporary mix-up between the vitality of the university associationism and the passivity of institutional elites, causes that a network of associations is being created that collaborate informally with college students but which is developed in precarious conditions (little institutional recognition) and with concrete character. These bad conditions radicalize the movement of democratization of science and leads them to associate to the networks of anti-globalization groups for being alike,.

It is recommended to approve, within the framework of the Social Council of the University of Seville, a science and society action plan that allows to start up initiatives from science shops of the university counting on the support of the Social Council. It is recommended to potentiate the formation of a local network of science and society, that promotes a greater knowledge of the society on the work of the scientists, celebrates forums of citizen sensitivizaion and develops good examples of projects of collaboration between civic institutions, university and associations.

At national level, science policy makers are recommended to impel the celebration of forums or workshops of reflection on the collaboration science and society, in the different Spanish universities.

Also the creation of structures of science shops in all the universities is recommended with a system similar to the OTRIs already existent for the collaboration with companies; and also to support the presence of civic associations in them.

## **9.5. Produced reports and material**

### **Interacts Reports:**

“State of the Art on science and society mediation in Spain, 2002”;

“Case Studies on Science shops in Spain, 2003”;

“The future of collaboration between the University and Civic Associations in Seville. Participatory workshop results, 2003”. (Spanish version of the workshop results, 2003)

### **Dissemination:**

In order to elaborate the reports of state of the art and case studies, key persons were contacted and explained the science and society action plan and the role of science shops.

In the invitation to the workshop, a dossier was distributed to around eighty persons, from local, regional and national organisations.

Other presentations on the mission of the EC science and society action plan were given in “Debate on Digital Journalism, at the Faculty of communication of the University of Sevilla 14.10.2003).

Oral presentations were also given at the Interacts workshop

### **Articles:**

Article for the review INNOVA of the Sevilla Technological Park. December 2003

Article for the review ANDULI of the Department of Sociology. University of Sevilla. January 2004.

# Appendix 10: National Summary: The United Kingdom

## 10.1 National Context

### 10.1.1. Background

Environmental and health issues, such as those concerning BSE and GM foods, form a major focus of scientific discourse in the UK, with increasing pressures for more response to citizen concerns (Irwin: 1995). Universities have a role to play through networking with local community groups (e.g. via science shops) to share scientific knowledge, thus building up social capital and strengthening civil society (Putnam: 2000).

For universities there is increasingly talk of a 'Third Mission', distinct from the established roles of research and teaching, which would connect universities with their localities, for instance as regeneration partners. Universities are also being seen as centres for developing citizenship and for producing graduates with work-related skills, e.g. through the HEFCE Active Community Fund to create 14,000 new volunteering opportunities. However, so far the main emphasis of the Third Mission has been on knowledge transfer, promoting science and technology innovation with the business sector, for example, through the Science Enterprise Challenge which has established 13 Science Enterprise Centres. Recently HEFCE has announced that the Higher Education Innovation Fund will be expanded to include community as well as business, and proposed the creation of 'knowledge exchanges' (which sound akin to 'science shops').

However, there is no state funding or legislation for science shops as such. Where university funding exists, extra funding from external grant giving bodies is required to maintain core staff salaries (an open-ended commitment which most charitable trusts are unwilling to make). Where science shops are established as independent entities with charitable status (such as Liverpool's Interchange) there are advantages regarding taxation and funding opportunities, though restrictions on activities which are classed as 'political'.

Supportive national political trends include the House of Lords Select Committee on Science and Technology, Third Report, 23 February 2000 which argued that public confidence in scientific advice to Government was low (after BSE etc), so that scientists must now seek to improve public understanding of their work through public dialogue

and improved scientific education. The response to this report by Scientists for Labour included the plea for science shops to be part of this process.

### **10.1.2. Science Shops in the UK**

In the early 1990s the Nuffield Foundation supported the establishment of two science shops, in Liverpool (which subsequently became Interchange) and in Northern Ireland. Brunel now has a 'science shop' (HEACF-funded) and there are a number of university-based programmes providing services very similar to science shops, such as Manchester Community Exchange and Wolverhampton Student Link. These programmes are usually based on university administrative units or are reliant on individual university teachers. A national science shop network has recently been established (in 2003) through the initiative of the Northern Ireland Science Shop.

## **10.2. Case Studies: UK**

### **10.2.1 Criteria for case selection**

The 3 case studies were chosen to illustrate how science shop research can address needs for knowledge by those in health-related NGOs, how such research has had long-term benefits for the students / researchers involved and how such projects can input into the curriculum at both undergraduate and postgraduate levels. The studies used different research methodologies, including survey, in-depth interviewing and observation and involved 3 universities, and 2 science shops.

### **10.2.2. Case 1: Benington Hospital<sup>11</sup>**

A total of 4 (inter-linked) applied research projects were conducted at Benington Hospital through the Volunteers Scheme, involving 6 students (4 undergraduates, two Masters), 2 supervisors from two universities, 3 hospital managers directly, and the Interchange co-ordinator. Each project built on the success of the previous one, as confidence in the Interchange programme developed, and contacts and networking have developed as a result.

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<sup>11</sup> According to the INTERACTS protocol, the organisations in these case studies are anonymised, though the actual names or initials of participants are used, with permission.

### 10.2.2.1. Fact Sheet

#### The report titles were:

- Assessing the Benefits of the 'Benington' Volunteers Scheme for Student Nurses (2000) (project 1)
- Evaluation of Bereavement and Trauma Support Services in Accident and Emergency: Benington Hospital (2001) (project 2)
- Hospital Volunteers' Perceptions and Understanding of Infection Control: An Exploratory Study (2002) (project 3)
- Views and Understanding of senior nursing staff of infection control procedures (2002) (project 4)

Request: The first research project began with the Volunteer Manager approaching Interchange, having heard about the programme from another local voluntary service manager who had had a number of successful Interchange projects. Following the success of the first hospital project, the Volunteer Manager suggested to other hospital managers working with volunteers that science shop research could be conducted with them as well. Thus all the projects originated from requests based on the good reputation of past Interchange research.

Aims: All the projects shared a common aim of providing research designed to be of benefit to the NGO. The specific aims were:

- Project 1: to assess the benefits of the Volunteer Scheme for student nurses who had previously been volunteers, through comparison with nurses without prior volunteering experience.
- Project 2: to explore ARC Befrienders programme from the viewpoint of the volunteers involved; to examine the stress levels of staff in A+E and the support networks available; to evaluate the Trauma and Bereavement support service, through the experiences of past service users
- Project 3: to evaluate infection practices by hospital volunteers; to identify what volunteers felt they needed regarding infection control
- Project 4: to examine the views of nurse managers on training, role models and communication systems with reference to effective dissemination of infection control information and awareness.

Duration: All research projects were conducted over 8 months (final year undergraduates) or 10 months (MSc postgraduates) – part time.

Students:

Project 1: Jamie Arnold, Jackson Li, Joanna Rice (Liverpool Hope)

Project 2: Andrew Kirkcaldy (Liverpool Hope/Liverpool University)

Project 3: Hameera Waheed (Liverpool Hope)

Project 4: Aileen Scott (Liverpool Hope/ Liverpool University)

Costs: The Hospital Volunteer Scheme registered all students as volunteers, and covered travel expenses, photocopying and the ordering of journals

Outcomes: All projects produced reports for students' degrees, and which were used by the organisation to improve service provision. Reports were widely disseminated within the hospital and nationally, Project 1 was featured in a national newspaper, Project 4 in a national conference (and subsequent journal publication), all 4 as extracts in Hall & Hall (2004, Palgrave).

Working Methodology: All 4 projects relied on semi-structured interviews, using schedules with open-ended questions to supply the bulk of the data. Self-completion questionnaires were also used, when appropriate – especially when staff were busy – and all students kept diaries of their observations and experiences. Observation provided orientation to the research, and featured more in the students' reflective accounts rather than in the client reports.

Interviews:

Level 1<sup>12</sup> interviews or reflective account analysis with all 6 students; 2 supervisors; 3 hospital managers; Level 2<sup>13</sup> interviews with 2 university managers, science shop co-ordinator, 2 senior NGO managers

**10.2.3. Case Study 2: Lakeview Day Centre**

Lakeview Hospital Trust is a non-profit making charitable organisation providing social and medical care to older people. The day centre, which is almost entirely run by volunteers, aims to provide friendly companionship and social support for older people who live in their own homes in order to help them keep their independence. Two (final year) undergraduate students conducted an evaluation of the day centre, primarily from the viewpoints of the users and the volunteers.

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<sup>12</sup> Actors directly involved in the project

<sup>13</sup> Actors having a view on the policy implications of the activity



### 10.2.3.1. Fact Sheet

The report title: *A Cottage Industry of Care (2000)*

Request: The project began with a request from the NGO for an external evaluation of the Day Centre. The Chief Executive contacted Liverpool University and the request eventually found its way to the office of Interchange, where the Co-ordinator listed the project.

Aim: To provide an independent evaluation of a day centre for older people, from the service-users' perspective

Duration: Eight months, part-time

Students: Shirley Fong and Annemarie Cronin, final year undergraduate students, BA Sociology, University of Liverpool

Costs: Lakeview Hospital paid for the students' travelling expenses from the University to the hospital, and for multiple copies of the final report. No other costs or charges were made

Outcomes: The report was disseminated internally and externally and used by the NGO as evidence of effectiveness of care, with the Chief Executive arranging for a number of copies to be made, for circulation both within and outside the Trust. The findings of the research were published in a report that was sent to the Hospital Trust. The students had the report assessed as part of their degrees, and it was relevant to aspects of current employment. The supervisor has used the report as material for conferences papers and publications.

Working Methodology: Forty-four Day Centre users responded via questionnaires and interviews, and 16 volunteers completed questionnaires, with more talking informally with the students during their visits. Observation also played a part in the research as a preliminary to gathering information.

Interviews:

Level 1 interviews or reflective account analysis with both students; one supervisors; one NGO manager; Level 2 interviews with one university manager, science shop co-ordinator, and one senior local government manager.

#### **10.2.4. Case Study 3: Midlands Befriending Service**

Age Concern federation is the largest charitable movement in the UK concerned with older people. Age Concern Midlands is an independent local charity which, as part of its work, provides a Befriending Service whereby volunteers visit older people who have recently returned home after being discharged from hospital or from residential care. The Befriending Service was a pioneer scheme which began in June 2000, with 5 years funding to be reviewed after the first two years. The student's evaluation study was therefore part of monitoring the progress of this new scheme through the Student Link science shop.

##### *10.2.4.1. Fact Sheet*

The report title: Evaluation Study of An Age Concern Befriending Service (2002).

Request: The project was part of an ongoing relationship (begun in 1996) with Age Concern as a development of Student Link, to enable several students to be allocated to the organisation to work in a team, with a rolling programme of research rather than one-off research projects.

Aim: The NGO was interested in a review and evaluation of the Befriending Service, by finding out the views of the clients who had received the service in their homes, as well as the views of the volunteer visitors

Duration: 4.5 months, part-time

Student: Liz Tunnicliffe, University of Wolverhampton, School of Humanities, Languages and Social Sciences

Costs: The NGO registered the student as one of their volunteers, which covered insurance, and met travel expenses and postage up to a low pre-agreed maximum budget

Outcomes: Student dissertation and careers enhancement – for a career working in social work with older people. Supervisor/ Student Link material for conference papers, publication. For the NGO, the report was used as feedback on service provision, and a guide for incoming staff and volunteers.

Working Methodology: Interviews were conducted with 5 clients. Nine volunteers completed questionnaires and 5 of these were subsequently interviewed in person.

Interviews: Level 1, one student, supervisor, NGO manager; Level 2: interviews with Student Link co-ordinator, senior NGO manager, university manager

### **10.2.5. Impact and policy evaluation**

#### *10.2.5.1. Impact on Non-Governmental Organisations*

From the perspective of the NGOs, each had a need for research that was effectively answered by the student projects. The research questions arose out of either a concern to add an external evaluation of service delivery to internal audit, or to research the effectiveness of new ways of working to address service issues. The research questions were largely determined by the NGOs, though the determination of research methods was mainly left to the student researchers in conjunction with their supervisors.

The existence of science shops or their equivalents meant that there was an organisational structure in place for linking across university and community, and an initial process of negotiation was evident in which each party could understand the requirements of the others, and the research questions could be operationalised in a student research project within the limits of student capability and academic requirements.

A central feature of the transformation of the research question by mediation was a continuing and close relationship between the NGO managers and the students, whereby assurance was given that the research questions were appropriate, and that the methods of research paid appropriate respect to those participating as stakeholders, practitioners, and service users. It was recognised that there were important ethical issues involved in how such people were engaged in the research, how the information was treated with confidentiality, and how the results were reported.

In each case, the results have been utilised by the client organisations, either internally within the organisation, or also externally through dissemination in related quarters. The forthcoming publication of the infection control studies in an international journal is somewhat unusual for student projects, but represents a genuine addition to knowledge that deserves wider dissemination.

Each of the case study reports has contributed to knowledge production relevant to general issues relating to the welfare of older people, for example, or the use of volunteers in an active society and the increase of social capital. Cumulatively they can

have an impact on the wider social and political discourse in society regarding these topics.

#### *10.2.5.2. Impact of Science Shops on Universities*

Science shops are still relatively unknown in universities in the UK, though there is a considerable undercurrent of such activity where individual departments and members of staff have a philosophy incorporating outreach to the community. There are indications that universities are increasingly being required to think about outreach as an aspect of third mission activity, though this starts from a low base, and is held in check by the many other priorities being placed on staff for their core activities of teaching and research. The National Committee of Inquiry into Higher Education (Dearing Report), for example, promoted university links with external organisations.

However, the reality is that university finances are under extensive pressure (DfES, 2003) so that senior managers focus on the 'core' business of teaching and research, and the 'bottom line' of financial management. They are unwilling to consider supporting community outreach unless a relevant income stream can be identified, and a strong case made for its value and benefits. In this respect, the Government white paper may be helpful as it includes a commitment to draw out a permanent stream of funding under the Higher Education Innovation Fund (HEIF) to be worth "£90 million a year in 2005-06" (DfES, 2003)

A further barrier to science shop activity is the lack of recognition in academia of applied community research, as the system is geared heavily around a particular type of scientific publication, and the older universities in the UK have less of a tradition of outreach than the post-1992 universities. Most importantly, status and government funding for research have until now accrued mostly to the older universities, (with 80% of research funding in England going to just 4 universities) thus bolstering the traditional 'pure research' ethos of these institutions, and encouraging the newer universities to follow in this path. The Research Assessment Exercises (RAE) in British universities have prioritised papers in 'leading journals' as the main indicators of research excellence, and further encouraged this tradition.

With a few exceptions, (e.g. Scott et al 2000) the outcome of UK science shop activity has been a report aimed squarely at the client NGO, which contribute to 'grey' literature which may receive wide circulation within the organisation, and with its relevant partners, but does not achieve notice within the wider scientific community. Nevertheless, it is also clear that many NGOs are looking to university research to flag up that wider context in

which their own activities are located, and that the cumulative impact of science shop work with different NGOs can be relevant and important and worth wider publication (as with the infection control research).

Knowledge transfer is two-way, and community concerns, through science shop projects, can find their way into academia, and provide both the practical examples to illustrate general social scientific discourse, as well as stimulating further research on contemporary issues facing the NGOs and the voluntary sector in general. There is evidence of such research having an impact on the curriculum both at postgraduate and undergraduate levels (Hall & Hall, 2002).

The establishment of science shops and community outreach means shifting the sights of university managers to serious engagement with 'third mission' activity. At present this third mission is dominated by the emphasis on a business / innovation orientation whereby the scientific advances of academia are exploited commercially. However, the third mission also relates to civic responsibility, of taking up responsibilities for urban regeneration, for example, which relates more readily with science shops.

The impact of science shops needs wider publicising, through publication, conferences and networking and through national research to accumulate systematic evidence across a variety of projects which bear on current issues in social science and social policy. Access to third mission funding will be strengthened by such evidence, and the INTERACTS reports will be valuable in providing the proof that science shop activity is both possible and worthwhile.

## **10.3. Scenario Workshop**

### ***10.3.1 Basic reference data***

The UK Scenario Workshop was held in the Foresight Centre, University of Liverpool, the University's major conference centre in a campus location close to the city centre. The workshop was a one-day event, held on Thursday 22nd May 2003, from 09.00 to 16.30hrs and including lunch provided at the Centre.

The **workshop theme** was, 'How can the relationship between university and community be strengthened by science shop activity.' At the **group sessions**, this was phrased for discussion as, 'What is the relationship between university and community and what role do science shops have in this relationship?' The scenario instructions to participants made it clear that the frame of reference was to the year 2010.

The workshop was organised by a team comprising the INTERACTS partners at Liverpool Hope University College and at the University of Liverpool, Irene Hall, David Hall and Sharon Lockley, who also acted as facilitators during the workshops. Karl Donert, European Fellow at Liverpool Hope University College was invited to co-ordinate the introductory and plenary sessions.

Prior to the workshop, an information pack was sent to delegates explaining in brief the objectives of the workshop and the question, and giving details of the Interchange science shop in Liverpool. At the workshop, participants received a delegate pack with the programme for the day, notes on the format and objectives of the scenario workshop sessions, and forms for feedback on their expectations, and their evaluation of the day.

### **10.3.2. Participants**

The participants were as follows:

#### **NGOs:**

Rob Evans	Personal Service Society, Liverpool
Christine Kelly	Azadeh Community Network, Liverpool
Gwen Lightfoot	Council for Voluntary Service, Warrington
Terry Owen	Volunteer Scheme Manager, Aintree Hospitals, Liverpool

#### **Researchers / Postgraduate Students:**

Julie Anderson	Department of Sociology, University of Liverpool
Karen Atkinson	Charity Law Unit, University of Liverpool
Neil Ferguson	Department of Psychology, Liverpool Hope University College
Paul Jones	Department of Sociology, University of Liverpool

#### **Science Shops:**

Andrew Cameron	Student Link, University of Wolverhampton
Dave Hurry	Independent Study Unit Coordinator, Sheffield Hallam University, Sheffield
Emma McKenna	Northern Ireland Science Shop, Belfast
Pat Green	Higher Education Active Community Fund Coordinator, University of Wolverhampton

#### **Policy Makers:**

Eileen Martin	Northern Ireland Science Shop, Belfast
Jennifer Latto	Government Office North West, Liverpool
John Kelly	Liverpool City Council, Liverpool
Tony Jacobs	Higher Education Funding Council for England, Bristol

### **10.3.3. Presentation by organisers (Speakers)**

Initial presentations were made by:

Irene Hall, Introductions and expectations for the day

Sharon Lockley, Arrangements for the workshop

David Hall, Science shops and Interchange in Liverpool

Karl Donert, The scenario workshop methodology

### **10.3.4. Workshop results**

#### *10.3.4.1. Visions*

In general, the groups held *similar* ideas of how science shops should develop and their ideas can be categorised under three broad headings: Access, Resource, and Policy:

#### *Access*

- Widening participation and removing barriers through
- Improving access and support for community
- Demolition of social class
- Creating more social care places
- Demystification of Higher Education
- Open structures
- More transparent and accessible access

#### *Resources*

- Recognising the potential of knowledge and information with
- University as a resource for community,
- Science Shops strengthening community

#### *Policy*

- Creating a change in science and education through
- Robust policy in University
- Influencing policy and research
- Policy being applicable at local level

Both the researchers and policy makers argued that demolition of class and social divide and working class access and support in universities was important. However, the

presentation of the Policy / Decision makers *differed* by tackling wider science and society issues, including in their vision:

- A healthier society
- Safe and locally available food
- Improved air and water quality
- A safer society, - feeling and being free of crime
- Efficient, clean, and modern transport
- Local employment
- Changing values

During the plenary presentation, all four role groups reported *similar visions*, and as an overall theme an **inclusive society** received the highest number of participant votes (11 votes). The next top five visions as voted for by the participants were:

- Science Shops to be used to act as a trigger for social change
- Science Shops to strengthen the voluntary sector
- Science Shops to be responsive (flexible) to specific community contexts
- Universities and community to work together from primary school upward ('floating support')
- Science shops to be 'two-way streets' (Interchange model)

#### *10.3.4.2. Theme groups' priorities*

Participants were asked to devise action statement posters to include the following details: *What* is the action? *How* must it proceed? *Who* is involved? *When* will steps towards achieving the action take place?

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The key priority was a suggestion for an Interchange *Conference* using the resources available to one of the NGO representatives, viz. Aintree Hospital Trust Volunteer Scheme and which should include those interested in science shops, members of Liverpool City Council, university researchers and policy makers.

Other suggestions included a *resource file* for service learning, applied research, and community based research which could be emailed to all participants in the workshop with references to other networks, summaries of good practice and useful resources. This would support a formal *grouping of science shops* and a *network of key policy makers* at national, regional and local level.



### **10.3.5. Proposals for future action**

The main actions suggested by participants were:

- Conference to 'showcase' Interchange and the potential for sciences shops nationally
- Resource file for ready information and contacts
- Formal association or group of science shops (regional)
- Small network of key policy makers to support science shops

### **10.3.6. Implementation/ dissemination**

- Interchange was offered free a conference facility by one of the participants, to hold a conference on science shops and the community. This has now been arranged for December 2<sup>nd</sup> 2003
- Participants agreed that their contact details would be circulated, to continue the interaction begun at the Workshop
- Participants agreed to share information and links to other networks so that networking could take place
- The participants from the Northern Ireland Science Shop were already in process of organising a regional network (first meeting hosted at Liverpool University, day after the scenario workshop)

Dissemination will continue through publicity for the (international) conference, and through proposed publication of conference proceedings. A report of the UK scenario workshop has already been published in the Liverpool Hope Virtual Daily newsletter, and it is proposed to submit an article to an academic journal on the UK scenario workshop experience and outcomes.

### **10.3.7. Reflections/ Comments**

The planning and organising of the workshop was extremely time consuming, in particular the methodology used for selecting participants. However, it was the most important part of the planning and organising of the workshop. The organisers developed new contacts who had not been personally invited, as information was often passed on within the target organisation to a second or third person who was keen to attend.

The adaptation of the informative materials for the UK audience was also time consuming, although it was extremely helpful to have a well-designed template to work from. The Co-ordinator of the Scenario Workshop also gave much time to the

organisation of the workshop, familiarising himself with the EASW methodology. The INTERACTS facilitators and the Co-ordinator had two long training sessions to work through the methodology plan as originally discussed at the INTERACTS training session at Innsbruck, to clarify further details and develop the programme for the day.

The organisers felt that the participants were extremely engaged in the morning visionary sessions, and contributed a lot of energy. However, by late afternoon people were beginning to tire and a few people had to leave early. Evaluation showed that participants enjoyed the workshop experience, although it was hard work. The organisers also felt it was a worthwhile activity with tangible outcomes for the development of Interchange.

#### **10.4. Policy recommendations based on national experience**

The following policy recommendations have emerged from the research conducted in the UK for INTERACTS:

##### *Timeliness*

Government policy on Higher Education is increasingly favourable to developing university/ community links through the 'Third Mission' (ref. *UK State of the Art Report*). The current consultation over the second round of the Higher Education Innovation Fund contains a proposal for 'knowledge exchanges'. It is recommended that proponents of science shops are included in the bidding processes within their universities, to offer their expertise and experience in ensuring that 'knowledge exchanges' learn from the lessons of science shops at a national and European level.

##### *Scope*

HEACF (the Higher Education Active Community Fund) [ref. *UK State of the Art report*] demonstrates commitment by the UK Government to expanding the role of student volunteering in the community. It is recommended that science shops should expand to include this form of community based learning within the curriculum (e.g. Interchange has recently altered its charitable constitution to include curriculum volunteering as well as applied research). The *UK Case Study Report* provided examples of how some students can fulfil joint roles as researchers and volunteers, and recommends that science shops consider the best practice of 'service learning' in the USA (ref. LATISS paper, conference papers by Hall & Hall 2003 – see below).

##### *Name*

The term 'science shop' has little resonance in English, and in the *UK Scenario*

*Workshop* it was recommended that this term be replaced by a more meaningful term, such as Community Research Exchange (the original title of Interchange). This would retain the notion that knowledge transfer is 2-way process with expertise residing in the community as well as in the university and express the notion of partnership better than does the term 'shop'.

#### *Initiative*

The majority of participants in the *UK Scenario Workshop* recommended that the university should initiate science shop activity rather than the NGOs. NGO managers (*UK Case Study Report*) appreciated the value of independent research which has little cost attached, and which is based in the high academic standing of the university. It is unlikely therefore that non-university science shops will develop in the UK, though it is recommended that more status needs to be given to applied research and community involvement in academia (and staff should be rewarded for pursuing these ends – and not just for publishing 'pure' research'). University-based science shops contribute to building civil society through the development of citizenship and social awareness (among students) and through the provision of concrete 'bridging social capital' (Putnam 200)

#### *Level*

University staff expertise is now being engaged by Regional Development Agencies, as recognition of the role universities have to play in enhancing the culture and well being of their regions (*UK State of the Art Report*). It is recommended that science shops do not restrict their activities to a local/ city level but promote their role as regional regeneration players, through seeking representation on the NGO strand of Regional Assemblies, and through lobbying regional politicians and policy makers.

## **10.5. Produced reports and material; (at 5<sup>th</sup> October 2003)**

### **Conference papers**

Both partners delivered a paper at the National Voluntary Sector Studies Network, University of Manchester November 4<sup>th</sup> 2002 *Community based research and science shops: an update on the INTERACTS project* to an audience of senior social policy academics, university and NGO researchers, and government policy makers in the UK.

Both partners conducted a workshop in the Higher Education/ Community Partnership Conference in London, organised by Middlesex University, CSV and HEFCE on April 15<sup>th</sup> 2003. The title was *Engaging students in the community* with reference to

volunteering, science shops and the INTERACTS project.

David Hall conducted a seminar at Chester University College on *Science Shops and INTERACTS* on May 7<sup>th</sup> 2003.

Irene Hall conducted a keynote address to the National Conference of The National Council of Volunteering, 'From Term Time to Life Time' in Birmingham, 13<sup>th</sup> June 2003, on *Changing and Enhancing Lives* with reference to science shops and INTERACTS.

Irene Hall delivered a paper at the National MOSAIC Conference in Liverpool (along with two Interchange students A. Aitken and J. Gornell) on June 28<sup>th</sup> 2003 *Expanding student experience through community engagement* with reference to science shops and INTERACTS.

*Irene Hall delivered a paper at the postgraduate conference Research Matters, at Liverpool Hope University College on September 12<sup>th</sup> 2003 on Reflexivity and Research: applied research practice with reference to science shops and INTERACTS.*

Scenario Workshop Report and News Item: *Hope Virtual Daily*, electronic newsletter of Liverpool Hope University College May 2003 ([www.hope.ac.uk](http://www.hope.ac.uk))

### **Publications**

Hall, I & Hall D, Chapter "Incorporating Change Through Reflection: Community Based Learning "(April 2002) in *Academic and Educational Development: Research, Evaluation and Changing Practice in Higher Education*, Kogan Page. Reflective learning in science shop projects

Hall I & Hall D (Spring 2004, forthcoming) *Evaluation and Social Research: introducing small scale practice: London*, Palgrave: this book is based on examples and practice of science shop projects, reference to INTERACTS

*Student Volunteering and the Active Community: Issues and opportunities for teaching and learning in sociology*, David Hall, Irene Hall, Andrew Cameron, Pat Green: LATISS [Learning and Teaching in the Social Sciences] journal (refereed) Spring 2004. Contains examples of science shop projects by sociology students in the UK (Liverpool and Wolverhampton).

### **Position papers for INTERACTS methodology by I Hall and D Hall:**

*Case Studies: a background discussion paper.* I Hall

*Case Study Research Issues: I Hall*

*The Role of Reflection and Reflexivity: I Hall*

*Towards a Scheme for Developing Policy Options: D Hall*

### **INTERACTS Reports**

*UK State of the Art Report: D Hall & I Hall*

*UK Case Study Report: I Hall & D Hall*

*UK Scenario Workshop Report: S Lockley, D Hall & I Hall*

### **National INTERACTS dissemination events**

*INTERACTS Scenario Workshop 22<sup>nd</sup> May, University of Liverpool: included representatives from the city, the region and nation*

International day conference: *The Reality of Partnership: Celebrating Community and University Working Together: 2<sup>nd</sup> December 2003, 9.30 am – 4.30 pm, Clinical Sciences Centre, Aintree Hospitals Trust*

(This conference is a direct outcome of the UK scenario workshop, and held in partnership with the NGO featured in the Liverpool Hope Case Study)

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Hall I & Hall D (Spring 2004, forthcoming) *Evaluation and Social Research: introducing small scale practice*: London, Palgrave

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Scott, D, Alcock, P, Russell L, and Macmillan R (2000) *Moving pictures: Realities of voluntary action* (Bristol: The Policy Press and Joseph Rowntree Foundation)

## Appendix 11: List of INTERACTS Reports

**The State-of-the-Art Report**, June 2002.

Compiled and edited by *Corinna Fischer and Annette Wallentin*, based on contributions from:

*Michael Strähle, Corinna Fischer, Gabriela Schroffenegger, Annette Wallentin, Toke Haunstrup Christensen, Michael Søgaard Jørgensen, David Hall, Irene Hall, Andrea Gnaiger, Alain Labatut, Teressa Rojo, Carmen Teodosiu, Ance Florentina Caliman, and Cezar Catrinescu*

### **National Case Study Reports:**

**Austrian Case Studies Report: West – The Innsbruck and Salzburg Cases.** By *Andrea Gnaiger and Gabriela Schroffenegger*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-9055-44-2)

**Vienna Case Studies Report.** By *Regina Reimer and Christine Urban*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-90855-49-9)

**The Danish National Case Study Report.** By *Søsser Brodersen and Michael Søgaard Jørgensen*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-90855-44-2)

**German Case Studies Report.** By *Simone Steinberg and Malte Schophaus*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-90855-47-7)

**Romanian Case Studies Report.** By *Carmen Teodosiu and Daniela Teleman*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-90855-50-7)

**Spanish Case Studies Report.** By *Inelia Ahumada and Alain Labatut*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-90855-48-5)

**UK Case Study Report.** By *David Hall and Irene Hall*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. January 2003. (ISBN 87-90855-49-3)

### **National Scenario Workshop Reports**

**Austrian Participatory Workshop Report, The Innsbruck Workshop.** By *Andrea Gnaiger and Gabriela Schroffenegger*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. August 2003. (ISBN 87-91035-05-8)

**Scenario Workshop Report Vienna.** By *Regina Reimer, Michael Strähle and Christine Urban*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. August 2003. (ISBN 87-91035-06-6)

**The Danish Scenario Workshop Report.** By *Søsser Brodersen and Michael Søgaard Jørgensen*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. August 2003. (ISBN 87-91035-03-1)

**National Report of Germany – INTERACTS Scenario Workshop in Berlin.** By *Kirsten von der Heiden and Wolfgang Endler*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. August 2003. (ISBN 87-91035-08-2)

**The Romanian Scenario Workshop Report.** By *Carmen Teodosiu and Irena Alexandrescu*. Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and Management at the Technical University of Denmark. August 2003. (ISBN 87-91035-10-4)

**The Future Collaboration between University and Civic associations in Sevilla.** By *Teresa Rojo*. Publisher: The Science Shop DTU c/o Department of Manufacturing



Engineering and Management at the Technical University of Denmark. August 2003.  
(ISBN 87-91035-09-0)

**UK Scenario Workshop Report.** By *Sharon Lockley, David Hall and Irene Hall.*  
Publisher: The Science Shop DTU c/o Department of Manufacturing Engineering and  
Management at the Technical University of Denmark. August 2003. (ISBN 87-91035-07-  
4)

### **Other publications**

**Communication of Science Shop Mediation: A Kaleidoscope of University-Society  
Relations.** By *Loet Leydesdorff and Janelle Ward.* September 2003.

**INTERACTS Methodology for group discussions and analysis: an adaptation of the  
EASW and BASIS Public Participation Tool. Instruction Booklet.** By *Inelia  
Ahumada.* 2003.

**Tool kit – Scenario Workshop.** By *Andrea Gnaiger and Gabriela Schroffenegger.*  
December 2003.

**Improving Interaction between Citizens, Universities and Science Shops. The Final  
Report of INTERACTS.** By *Michael Søgaard Jørgensen, David Hall, Irene Hall, Andrea  
Gnaiger, Gabriela Schroffenegger, Søsser Brodersen, Regina Reimer, Michael Strähle,  
Christine Urban, Kirsten von der Heiden, Wolfgang Endler, Carmen Teodosiu, Teresa  
Rojo, and Loet Leydesdorff.* February 2004.