

Living Knowledge

No. 1 - November 2003

■ International Journal of Community Based Research

Getting Started



■ Starting in the Middle:
A California Science Shop Initiative

■ From Information to Participation:
Visualisation of Land Use Change



Living Knowledge
The International Science Shop Network

Contents

Getting Started

The International Science Shop Network is under Construction

“Getting started“ with science shop networking will increase citizens access to scientific information and knowledge. All about capacity building and interactive information warehouses » 5

Starting in the Middle: A California Science Shop Initiative

It needs a lot of people to get to the other side. But how can one build community capacity and grow smart with the aid of technology? The National University San Diego in California accepted the challenge and launched the National University Institute to listen to local voices and identify community needs. Thomas MacCalla and Jaqueline Caesar describe how collaboration with community partners and creative news of technology payed dividends » 6



From Information to Participation

There is a dramatic loss of green areas within the last thirty years. Cities show the tendency to grow continuously. A co-operation project of two science shops with two universities in Germany visualizes the process of change according to general land-use patterns. » 9



Around the World

» 3

Forum

» 11

Clippings

» 12

Editorial

As we move from a science society to a knowledge society, science affects citizens more and more. This raises a need to discuss questions on social values, and the risks associated with scientific progress. This also means that scientists have to move away from the image of eccentrics locked away in ivory towers. In a democratic Europe, citizens should be able to take part in the decision making process. At this point one of the strengths of the science shop methodology gets visible: it is adaptable to the scientific environment just as to cultural or socio-political backgrounds. And science shops are not „just“ a one-way channel to supply information to citizens. They also supply scientists with challenging new subjects and research themes, and can offer unique learning experiences to student-researchers.



“Living Knowledge - The International Journal of Community Based Research“ is a report magazine. It is not a “scientific” publication yet, with strong peer review rules. By choosing “Getting Started” as theme for this first issue of “Living Knowledge” we wanted to light up different aspects of the current state of science shop work: ISSNET co-ordinator Caspar de Bok talks about the growing network of science shops which will raise the visibility of and facilitate communication among science shops worldwide. Thomas MacCalla and Jacqueline Caesar describe how a science shop initiative in San Diego, California, developed to the “National University Institute” for listening to local voices. And Anke Valentin reports about a project which is outlined to give the largest numbers of citizens an abundance of information to participate in the discussion about and the development of new strategies of land-use patterns. The magazine section “Around the world” offers news and information about demand driven science shop projects and experiences in setting up a science shop. The sections “Forum” and “Clippings” give space for previews and reviews, statements and opinions, letters and reports.

Enjoy this first issue of “Living Knowledge” and get a good impression of the various facets of science shop work. And remember that networking and making a magazine lives from participation. The next issue will be published in March 2004. Please check www.scienceshops.org for the coming topics, and feel free to contribute!

Yours sincerely
Norbert Steinhaus

Living Knowledge

International Journal of Community Based Research

No. 1 - November 2003

Published by: ISSNET, c/o Wissenschaftsladen Bonn e.V., Buschstr. 85, D-53113 Bonn, Germany, phone: ++228 201 610, fax: ++228 265 287, mail: info@wilabonn.de, <http://www.wilabonn.de>

Editor: Norbert Steinhaus (norbert.steinhaus@wilabonn.de), Assistant Editors: drs. Caspar de Bok (c.f.m.debok@bio.uu.nl), David Hall (djhal@liverpool.ac.uk)

Layout: Norbert Steinhaus, Pictures: Thomas MacCalla, Photodisc, Norbert Steinhaus, Wissenschaftsladen Bonn; Printed by: druckladen gmbH, Bonn, November 2003, Number of Copies: 5000

Living Knowledge - Journal of Community Based Research is part of a project called ISSNET which has been awarded financial support by the European Commission through the contract HPRP-CT-2002-00011. ISSNET is a 'Thematic Network' in the 5th Framework Programme, under the theme 'Improving Human Potential & Socio-economic Knowledge base', section 'Raising Public Awareness of Sciences and Technology'. For further information please see www.scienceshops.org or contact drs. Caspar de Bok, c.f.m.debok@bio.uu.nl.

Living Knowledge - International Journal of Community Based Research is a four-monthly publication. The next issue will be published in March 2004. The magazine welcomes the contribution of reports, articles, news, press releases and clippings, letters, contribution to discussions, job offers, internships, internet links etc. Reports and detailed articles should follow the editorial guidelines. Information about the magazine and the editorial guidelines can be found at the homepage of the science shop network (www.scienceshops.org). Please feel free to contact the editors for your questions and any support.

The views expressed in the articles and papers are those of the authors and are not necessarily endorsed by the publisher. Whilst every care has been taken during production, the publisher does not accept any liability for errors that may have occurred.

Bonn, D

Unwrapped Environmental Theatre

How does one bring environmental problems home to children without immediately making them feel as if they are in class & being talked at? Well, by employing theatre. Since 1990, the Bonn Science Shop has had the environmental theatre UNVERPACKT ("Unwrapped"), its own, professional theatre group.

In their pieces & skits, written by theatre experts & environmental pedagogues, the theatre group uses drama to convey their topics in an emotional-

ly compelling, playful form, humorous & captivating at the same time. A special focus of their performances for children was made on the topics of the waste of energy & the production of garbage. But also for adults street & stage clownesque skits, revues and dramas were performed. Thus public funding for theatre presentations decreased many presentations are now funded either through private investors by co-operation of several schools joining together to book the ensemble of the Bonn Science Shop.

Gabriele Fremuth, info@wilabonn.de or umweltheater@fremuth.net or



Belfast, UK

Experiencing Isolation Social isolation amongst elderly men in Belfast

Elderly men are extremely prone to isolation. Almost all of the men asked in a study of the Belfast Science Shop experience some form of isolation in their elderly years. The study was made on behalf of the North Belfast Senior Citizens Forum. Whilst previous research has shown that the main factors causing isolation amongst elderly men are bereavement, living alone, retirement, poverty and incapacity, a new research looked beyond these factors. Men who had worked in skilled occupations were more likely to feel isolated, largely due to the fact that their children were more likely to have gone on to live outside of Northern Ireland.

Men who had worked in manual occupations were more likely to have strong networks of children living nearby. Older men who were Protestant were more likely to find church-based activities that they felt were suitable for their age group, for example bowls and a swimming club, whilst one older Catholic man commented that the activities at his church were all designed for younger people. The North Belfast Senior Citizens Forum, commented that it brought fresh perspectives on the thorny problem of how to include older, isolated men their our work.

science.shop@qub.ac.uk, <http://reserachservices1.qub.ac.uk/Scishop/scishop/scienceshop>

León, E

University Radio

The University Radio of the University of León and the Bazar de las Ciencias (Science Shop) co-operate in activities related to the popularization and dissemination of science and technology. For students who are using any of

the services of the Bazar and who want to disseminate their work, a space to make a broadcast in the schedule of the University Radio is given. Moreover, the University Radio and the Bazaar of the Sciences will work jointly

for the development of Radio activities and events for enhancing the reflection, popularization and debate in the scope of the scientific culture.

bazar@unileon.es, www3.unileon.es/bazardelasciencias/html/head/What_Is.shtml

Groningen, NL

Wind turbines are noisier at night First survey on wind turbine sound at residences in the Netherlands

Wind farms produce more sound than expected, especially in quiet nights. Moreover the sound is not a featureless, 'noisy' sound, but it can contain repetitive pulses, adding to the annoyance it may cause. These are the results of sound measurements that were made in request of residents who had severe complaints about the new Rhede wind park just across the German-Dutch border, with 17 tall (100 m hub height) wind turbines at 500 to 2000 meters from their homes. The cause of the unexpectedly high sound levels is that at night, especially in clear nights when the atmosphere is stable, the wind at 100 m height does not decrease as the wind at ground level does. It

may even blow harder than in daytime. Wind speed measurements are usually performed at a reference height of 10 m and extrapolated to other heights with a formula that is valid for a daytime atmosphere. It is not valid for a stable, nighttime atmosphere that, near the Rhede wind park, occurs for one out of three nighttime hours. A consequence is that wind turbines rotate faster than expected, producing more sound. High sound levels do not only occur during the relatively short time when strong winds are felt at ground level, but more often in quiet nights. The pulsating character of the wind park sound also seems to be a consequence of the steady conditions at night. Several

turbines rotate very close to synchronicity and the swishing sound that occurs when several turbine wings pass the tower add up to louder thumps that fade away again when the synchronicity temporarily disappears. At distance of 500 m up to 2 km the wind park sound is not unlike distant pile driving or, as one resident put it, an endless train. It is usual, and even recommended in international guidelines, to measure wind turbine sound near a single turbine. For practical reasons measurements are usually performed during daytime ('office hours').



The fact that the work was on behalf of citizens' groups shows that this may make a difference in research question and even in research results.

Frits van den Berg

The study will be published in the Journal of Sound and Vibration. A Dutch report and German translation are available at the Science Shop for Physics, University of Groningen, the Netherlands, NAWI@PHYS.RUG.NL, www.rug.nl/wewi/nw

Brussels, B

Setting up a Science Shop

Study of Science Shops in Belgium shows demands in health questions

Although gaining of the 30 years of experience of Dutch science shops, it was not possible simply to copy the Dutch model to the Flemish Science Shops of Brussels and Antwerp in Belgium which started in



December 2002. "Education and research cultures of the two countries are quite different", said Sofie Van Den Bossche from the Brussels Science Shop. "Moreover, institutions of higher education are organised differently, and there are cultural differences in society as well." The Dutch science shops evolved essentially out of student associations, while in Belgium the demand for research requested by citizens came from the top of the universities and from the government. A second major difference is found in the less flexible structure of the Belgian educational system compared to that of The Netherlands.

The Flemish Science Shops performed a study on demands to assess the NGOs need for a science shop in the future. This will allow the staff to focus on certain topics. They asked some 3000 institutions and NGO's for their opinion. 44 % of the responders struggle with societal, health or environmental questions and problems that might lead to a science shop activity. Health questions usually are requests for more information on non-recognized diseases or little-known diseases. Though this might appear to be a challenge, it is at the same time a bottleneck for a new science shop. Starting research on non-recognised diseases is difficult to establish at an

university. Moreover, the training of medical students does not allow arriving at research results in a short period. So it will not be easy for the university to offer a significant amount of answers to the large number of questions in that specific field. These issues motivate the Science Shop team to establish an extended network of universities, scientific institutions, polytechnics and vocational colleges alongside the science shop. "Effective collaboration leads to scientific support in a much larger set of societal problems than if only one university tries to take it all", summarized van den Bossche.

Vrije Universiteit Brussel, www.wetenschapswinkel.be, www.ua.ac.be/wetenschapswinkel

Groningen, NL

Microfinance of Housing

The Case of Nicaragua

The Stedenband Groningen-San Carlos and Housing Association Nijestee asked the Science Shop of Economics at the University of Groningen to research how projects for financial support for housebuilding and renovation in the relatively poor city of San Carlos in Nicaragua could be designed. The research focused on studying how credit organizations that offer microfinance of housing programs to the low- and moderate-income households in Nicaragua have organized and structured their lending practice. All the investigated microfinance of housing programs, except one,

are successful in maintaining an operational sustainability, but all the institutions needed a subsidy to start with. The loan product of one credit organization seemed to reach the majority of low-income households. The monthly amount the clients of the other institutions have to pay is higher and seemed to be only affordable for incomes above the poverty line. This could indicate that the main objective of these programs does not incline towards impact but more towards outreach.

Science Shop of Economics, Management & Organization, University of Groningen, www.rug.nl/wewi/eb, wewi@eco.rug.nl



London, UK

Recruiting academics

Brokering between research need and practical experience

The Brunel University Science Shop (BUSS) was set up just over a year ago with funding from HEACE, the Higher Education Active Community Fund. Its aim is to act as a broker between the research needs of local community-based organisations and Brunel students who want to put their academic knowledge to practical use. Over the year BUSS has provided a number of opportunities for students which have included:

- An evaluation of the local community safety strategy benchmarked against national norms
- Work on the lifelong learning needs of minority ethnic groups
- An evaluation of the effectiveness of local authority and

health service grants made to voluntary sector organisations

- An environmental community project undertaken by Level 1 students in Geography and Earth Science

Until recently BUSS has been staffed by a part-time Director, but will now also employ a full-time Co-ordinator. "Perhaps the most challenging area we have found over the year is how to engage the academics most effectively", said Val Ross, director of the Brunel Science Shop. "We have a few champions in various departments but would like to recruit more. I would be interested to know from others if this is a common area of concern."

BUSS, Brunel University, Uxbridge, bus@brunel.ac.uk

Paris, F

Creating a new social agreement

Fondation Sciences Citoyennes

The French non profit organisation 'Fondation Sciences citoyennes', set up in 2002, is a NGO aiming at promoting reflections and actions on the democratisation of science. FSC supports the liberty of expression in the scientific community concern-

ing the social responsibility of scientists, and organises conferences, monthly debates on actual topics, and is actively involved in raising a network of citizens' research and expertise .

Fondation "Sciences citoyennes", contact@sciencescitoyennes.org, <http://sciencescitoyennes.org>

Interview

The International Science Shop Network is under Construction

Mr. de Bok, you are the project co-ordinator of the 'ISSNET-Project', which is funded by the European Commission. What does 'Getting started' symbolize for you?

After the basic studies of SCIPAS¹ „Getting started” with ISSNET² gives us the chance to enlarge the pool of knowledge and experiences to be shared. We, in the science shops, see in our daily work the concerns about science and the scientific method. Starting a network will advance the outreach, size and impact of the contribution of science shops to citizens' access to scientific information, knowledge and expertise.

Will ISSNET be the name of the network?

No, ISSNET is an acronym and means 'Improving Science Shop Networking'. But the activities of ISSNET are the nucleus for the future international network of science shops, which is called "Living Knowledge".

Who participates in this project?

It is a consortium of participants who are responsible for carrying out the work. Partners come from the Netherlands, Germany, Austria, Denmark, France, Spain, the United Kingdom, Romania and the United States. Although the membership of ISSNET is restricted, there will be more organisations that will have the opportunity to participate in the activities of ISSNET and contribute to it as well.

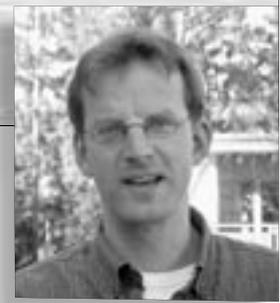
How can this participation be described?

The project partners co-operate in four workpackages. There is a strong relationship between the activities of the workpackages, they will all give input for the establishment of the international science shop network Living Knowledge. And ISSNET has already developed forums for all parties interested and involved in science shops and other forms of community based research. They can give input to but also get information from the Living Knowledge discussion list, the bimonthly newsletter or this magazine. But we also have established and maintain a website with a database which is a free, publicly-accessible resource for science shops, community-based organizations, universities and funders world-wide. You might call it an interactive "information warehouse", providing users with resources and tools related to community-based research. The activities in ISSNET will therefore build on and complement national activities.

ISSNET's objectives are to assist existing science shops and support the establishment of new science shops. How would you describe your specific activities?

Most science shops are small and operate on a local level. Thus they have limited capacity to track international developments, even those

Caspar de Bok from the Utrecht Science Shop for Biology talking with Norbert Steinhaus



pertinent to their operation and work. For that ISSNET will develop collaborative relationships with science shop-like institutions and networks inside and outside of Europe. Piloting trans-national, thematic community-based research projects is part of the project's main objectives. Regarding new science shops, you must see that because of cultural

Definition

A „science shop” provides independent, participatory research support in response to concerns experienced by civil society. Science shops use the term „science” in its broadest sense, incorporating the social and human sciences, as well as natural, physical, engineering and technological sciences.

and socio-economic differences in Europe there is no single structure for setting up and running a science shop. But science shop work is demand-driven. ISSNET will serve as a contact point and information desk for co-operation on community-based research and advice and on relevant international (e.g. EU) policy developments. Under the headline of 'capacity building' part of our activity will be mentoring of (new) science shops and to build a structure to assist in setting up, managing and developing science shops. Mentoring itself can be performed by any of the active partners within the network, depending on the specific assistance or expertise required. It can include exchange of experts and expertise. In addition ISSNET

will also explore developing training programmes for science shop staff. With the Living Knowledge database a start was made in preparing an overview of training programmes that will contribute to the network's structural information exchange activity. In the future it will lead to the development of new training programmes, as well as exchange of training programmes and courses and mutual training sessions. The improved visibility of science shops will also assist in the expansion of the network of science shops within Europe, especially into the currently underserved Eastern and Southern European regions.

Which milestones can we expect from ISSNET in the future?

There are already a lot: We have the discussion list, the newsletter and the website with the database. You have the first issue of our Living Knowledge magazine in front of you! A pilot on transnational environmental co-operation will be developed. Based on these experiences we will offer a toolkit to facilitate interactions between participants of Living Knowledge to improve collaboration in transnational research issues. Finally the first overall results of ISSNET will be presented and discussed in public at a conference to be held in Sevilla, Spain, in January 2005. So, building the network is a process, it develops and lives from participation. Through this interview, I would like to invite you to give your input.

Thank you very much, Mr. de Bok.

Information

Caspar de Bok
Science Shop for Biology,
Utrecht University, Padualaan 8,
3584 CH Utrecht, the Netherlands
tel: +31.30.253 5796, fax: +31.30.253 5795,
c.f.m.debok@bio.uu.nl, www.scienceshops.org

¹ SCIPAS (Study and Conference on Improving Public Access to Science through science shops, HPV1-CT-1999-00001). See www.scienceshops.org for its output.

² ISSNET is a „Thematic Network” in the 5th Framework Programme, under the theme 'Improving Human Potential & Socio-economic Knowledge base', section "Raising Public Awareness of Sciences and Technology". Period of support: February 2003 - August 2005 (HPRP-CT-2002-00011)

Getting started

Starting in the Middle

A California Science Shop Initiative

by Thomas MacCalla, Ed.D
and Jacque Caesar, Ph.D.,
National University San Diego, California

There is a German Sprichwort or proverb that states “All beginnings are difficult and the end does not come alone.” In the new economy, the relevance of that folk wisdom seems very appropriate for the way we think and do community business, except that we may want to rephrase the message to read, “Everything starts in the middle and we need to work smart and join a lot of people to get to the other side.” Those words also exemplify the spirit of “Getting Started” and preface the story that we want to tell about a number of community practice messages rolled into one; namely, “How do we build community capacity, encourage smart growth, yield community dividends, and sustain the effort?”

Getting started

In January 2001 we participated in the Living Knowledge Conference in Leuven, Belgium where the creative seeds were sown for conceptualizing variations on the *science shops* theme. We transplanted those kernels of thought in California, the same year that National University created a system-wide vehicle for community research, enterprise development, and service (www.nu.edu/nui). We also established a mutually-rewarding working relationship with the nearby National City Collaborative (NCC) to explore the implications of collaboration and bring the science shop message home. Concurrently, the NCC, with its

A community is an act of will – not individual willpower, but a collective or higher order Will. It requires commitment to engage in a dynamic natural process that enables coalescence of diversity toward a common purpose.

(Robert A. Mang, 1996)¹

fifty-two member community organization and steering committee, was wrestling with manual data management, tracking multiple funding streams, and reporting program/service results to strengthen families and communities.

Everything was in place when we returned. Community-based research still was a higher education novelty and civic entrepreneurship was a budding notion. National University, however, was ready to launch its commitment to a “Collaborative Future as a Full Community Partner,” and it sought ways to share a vision for building caring, inclusive, smart, and prosperous communities. What was not in place, however, was a viable collaborative university-community connection with a multiplier effect. Also not in place was a sustainable community-based community services infrastructure and the ability to replicate an innovative one-stop Family Resource Center service operation. The need was apparent, the magnitude of the problem was overwhelming, and the will to improve was present, but the capacity to continue, rethink the way we do community business, and “grow smart” with the aid of technology was problematic.

As a point of reference, National City, California has a population of 77,000 and is located 12 miles north of the U.S./Mexico border and immediately south of San Diego. According to the 2000 Census, the average household income is \$34,000, making National City one of the poorest urban communities in the nation with one of the highest costs of housing. The population demographics include 56% Hispanic/Latino, 24% White, 12.9% African American, 6.3% Asian/Pacific Islander, and 0.08% American Indian/Eskimo/Aleut. A large percentage of the community is made up of new immigrants who are monolingual in the native languages, and Spanish and English are the predominant languages spoken.

With the launching of the National University Institute (NUI) for Community Research and Civic Entrepreneurship, the prospect of a California science shop initiative be-

¹ Mang, Robert A. “Principles of Sustainability”, Community Building, Renewing the Spirit and Learning in Business. Santa Cruz, CA: New Leader Press, 1996, 441 pp



came real. NUI listened to local voices, joined community partners to identify priority community needs and marshalled academic and community resources via NUI's University Consultant Corps. Through dialogue, exploration, and innovation, faculty associates and student interns worked with the NCC leadership and Family Resource Centers (FRC)

participants to conceptualize a prototype, web-enabled, relational data management capability and to design an approach to evaluating the effectiveness of a one-stop delivery system.

Growing a smart community

Too often, people tend to equate the digital divide or lack of access with disenfranchised individuals or groups and overlook the technology shortfall in community organizations and the non-profit world. For many, pencil and paper record keeping is still in vogue and survival scurrying is the order of the day. What this project suggests is that growing a smart Community Collaborative is a viable success and sustainability. Although NUI is still refining the model, it has completed the critical prototype phases. As such, the paper singles out an artefact of a community of practice and offers hope.

The NCC is the structure for joint strategic planning and integrated programs, policies, and facilities development. It serves to nurture and promote the collective vision of over fifty member community organizations and to guide the work of diverse community service agencies and to effect systems change that will enhance the well being of the National City community. The programs and services it offers are primarily delivered through four strategically located Family Resource Centers that serve approximately 20,000 individuals and families. The NCC/FRC is legally an operational non-entity and the National School District is the fiscal agent. Four FRCs provide over thirteen programs and partner services from more than seventeen different funding streams, reaching approximately 20,000 individuals and families. The FRC goal is to provide the kind of services the community needs most, and to encourage residents and families to give back to the community.

Accepting the challenge

The NCC/FRC integrated community services system was a complicated and dynamic process that prompted our science shop pursuit. Conceptualizing and explaining how this intricate service delivery system could work required a special skill. The expressed need was for a more effective and efficient system of accountability, sustainability, and managing the interrelationships of separate and shared FRC programs/services was very evident. The

backdrop for the prototype was fashioned in a constellation of ambiguous structures and a sea of pressing human service needs with high client expectations. The meshing of these ingredients into a comprehensible and repeatable system posed a massive challenge to a small staff of community practitioners with

limited resources. Similarly, translating, collecting, analyzing, tracking, and reporting fluid information outcomes into a relational database became a daunting technical task. Nonetheless, our camaraderie and joint "act of will" enabled us to accept the challenge and start forging a creative solution.

The overarching goal of NUI was to design and develop a prototype relational database that would improve NCC/FRC organizational effectiveness, simplify integrated FRC

data collection, processing, tracking of programs and services and generate timely reports. The database would be customizable, privacy-compliant, and accessible only to designated authorized users.

Developing a prototype database

Below is a sample "Home Page," followed by the parameters of the data hierarchy and process flow. The interactive features for queries, data intake and referrals, management functions and reporting are proprietary and not shown. All pertinent FRC data for individuals and families in relation to provider-client-system interfaces are captured for retrieval, updating, and archiving. The prototype system exemplifies the integration of a complex human service delivery system that heretofore was not possible



Figure 1: FRC Infrastructure

The FRC services:

- *Prevention services that bring information and education to the community, including adult education, after-school tutoring, Spanish literacy, health education classes, tuberculosis testing, immunization clinics, assistance with forms, as well as advocacy.*
- *Crisis intervention is provided for immediate intervention services and referrals to families referred by the schools, from other agencies, and those who seek help on their own. These services include counseling, care coordination, rental assistance, referrals for shelters, and emergency food. The FRC also intercedes on behalf of resident families regarding income maintenance and MediCal issues*
- *Care coordination is a team effort that provides services for long term wellness, resolution of multiple needs and case management. Care coordinators serve individuals, families with children in school, and others. They take into account the priorities of the family, and together with the assigned coordinator initiate a plan that addresses all pertinent concerns.*

and demonstrates a variation on engaging community partners and special populations in applied research and service venues. The project evaluation component includes an integrative investigative approach that included 1) an exploratory phase

encourages citizen participation at all levels.» He also pointed out, however, that community-based research is still not widely adopted in the United States. (<http://www.loka.org/crn/scishops.htm>). Likewise, the Living Knowledge International Science Shop Network states that “science shops provide independent, participatory research support in response to concerns experienced by civil society.”



FRC Care Coordinator reviews family case files for database entry

assessing familiarity with the system and day-to-day activities, and 2) systematic data gathering to better understand the organizational structure, operational processes, NCC/FRC and client expectations and satisfaction. The evaluation format included multiple levels of electronic and personal inputs associated with planning, critique, process, and outcome measures.

Collaboration pays

What, then, is the moral of this California science shop story? The indelible lesson is that open collaboration, responsiveness, inclusiveness, connectivity, documentation, creative use of technology and good facilitation and feedback pay dividends. As Richard Sclove noted in his earlier Loka Institute paper on «Science Shops,» that «community-based research is rooted in the community, serves community interests, and frequently

Couple these perspectives with the concept of civic entrepreneurship and community enterprise development and the dividends multiply. NUI's California initiative is about integrating and managing information for community benefit and commercial reward. In pursuing that goal, the University and its partners become communities of practice without being called that by name - community leaders who contribute to the extension of new knowledge through technology and potential generators of revenue for sustainability. The customizable web application that NUI designed and developed with the National City Collaborative and its Family Resource Centers offer a viable pathway for smart growth and economic self-sufficiency.

Two other value-added dimensions of the project were realized. First of all, a University Consultant Corps of faculty, students, and professional associates outside of National University became a reality. Secondly, community research as service and scholarship in the academy became recognized and sanctioned. As Jane Mansbridge, Adams Professor of political Leadership and Democratic values at the John F. Kennedy School of Government, Harvard University remarked in her review of *Civic Innovation in America* (2001)²:

“A new philosophy of organizing is a foot in the land... It works from the bottom up. It deliberates about the ends and means. It crafts voluntary agreements. It fosters common work.”

May science shops continue to grow and yield dividends for the common good. □

² *Sirianna, Carmen and Lewis Friedland. “Civic Innovation in America”, Community Empowerment, Public Policy, and the Movement of Civic Renewal, 2001, 385 pp.*



Figure 2: FRC Home Page

Information

Thomas MacCalla, Ed.D.
 Executive Director, NUI & University Vice President
 National University Institute for Community Research & Civic Entrepreneurship
 11355 N. Torrey Pines Rd.
 La Jolla, CA 92037-1011, U.S.A.
 Tel: (+858) 642-8104, Fax: (+858) 642-8739
 tmaccall@nu.edu, www.nu.edu/nui

From Information to Participation

Visualisation of Land-Use Change in North Rhine-Westphalia, Germany

by Anke Valentin, Bonn Science Shop

The dramatic loss of green areas within the last thirty years is vividly shown by a current project involving the Bonn Science Shop („Wissenschaftsladen Bonn“), the University of Bonn, and additional partners. The project suggests alternative forms of land-use by best practice examples. In addition an extraordinary Website will be constructed and working at the end of the year 2003: On this website satellite images and aerial views will visualize the processes of change via a central web interface. In order to make comparison possible, land development at three distinct points in time (1975, 1984, 2001) can be put side by side. Users can get information on the development of a distinct place. The Website provides information on current best-practice projects and scopes down to some areas which are typical for specific problems because of changed land-use patterns. In general, these problems are not directly caused by urbanisation but by human interaction.

Different examples are given concerning primary structural features. One example focuses on flooding and the importance of maintaining natural riverbeds; another focuses on open-cast mining and nature re-cultivation; another on a gravel pit and its recreational function; another on an expanding airport, and so on. Altogether, more than ten areas have been chosen for detailed presentation.

These areas are good examples to demonstrate land-use change and its consequences. Within the next years, these areas could be starting points for testing the Website issues outside of the State North Rhine-Westphalia. It is very possible that the development of some typical coastal areas or winter-sport locales in the mountains can be discussed the same way: using satellite pictures and further visual material via the Internet. The project is outlined in such a way that the largest number of citizens will have direct access to an abundance of information. The only prerequisite for participation is access to the Internet.

Regarding the Process

Up to now, the project's process has brought to light the wide gap between scientists and citizens. On one side, there are the scientists at the university who possess the know-how of various methods for observing and analysing the change in land-use patterns by using satellite images. On the other side, there are the citizens who are more or less directly affected by the change, but who lack a scientific background. If people are supposed to be involved in planning-

In the previous decades, cities have shown the tendency to grow continuously, and general land-use patterns have tended to change according to people's needs, political changes, as well as economic developments.



Devaluation of regions by gravel pits

processes, and if they are meant to form their own opinion about future land-use patterns, then it will be necessary to bring both sides together: scientists & citizens. The Bonn Science Shop will achieve this goal by taking advantage of

- (1) broad co-operation with two universities
- (2) software experts
- (3) two science shops
- (4) schools/environmental grassroots/local communities.

1 The two participating universities cover different disciplines. The imaging emphasis of the work lies in the hands of the Center for Distance Surveillance of the Land Surface (Zentrum für Fernerkundung der Landoberfläche) of the Geography Department of the University of Bonn. The participants there are responsible for the selection and processing of the satellite images. Data will be rectified, cleaned (e.g. from clouds), and classified, in order to facilitate an analysis – or, in some cases, even to make an analysis possible for the viewer. And this is where the first misapprehensions between scientists and citizens arise. For example, the term

„classified“ is not common in everyday speech, and even if one knows that this term refers to the colour-markings of the varieties of land-use (i.e. forest – dark green; meadow – light green; fields – yellow; buildings – red), an interpretation remains difficult for the layperson. Even if the legend reveals which colours refer to which land-use and how a comparison of satellite images at different points in time make apparent the increase or decrease of certain uses of land, that still does not say anything about the

quality of those changes. Thus, further explanations are needed as to which land-use has which positive or negative effects regarding the ecosystem.

Making this information available in the most attractive and user-friendly fashion is the task of the second university participating in the project: The Karlsruhe University of Pedagogy. The geography and pedagogy instructor involved is responsible for the didactical preparation of the web-material. Especially demanding in this task is the fact that the target group is not entirely clear. The target group, roughly outlined, is made up of teenagers and adults who, although interested in the topic, nevertheless for the most part have little or no knowledge about it. That not only means that all scientific terminology has to be „translated“ but also that the selection of topics and the variety of texts determines whether the website will actually be used later on.

3 The two participating science shops will be expected to play the role of mediator. Science Shops are present all over Europe, first, to make scientific findings available to citizens and, second, to ground the citizen's questions and demands in the scientific world. The Gießen Science Shop is primarily responsible for the graphic design of the website and the optimization of its usability. The Bonn Science Shop is conducting project management and public-relations. The main task in this effort is to select the different target groups and to integrate them and their needs into the project in such a way that the website can be used profitably after the conclusion of the project. Thus, an agreement with a number of communities has been reached to conduct action days on the topic of land-use planning – a topic that frequently causes controversy within municipalities in the discussion on participatory planning. The website is to be used as a companion to these planning processes.

4 The goal of the project is not only to inform about development in the past but to co-operate with environmentalists, local planners, teachers and pupils. During the first phase of the designing of the Website, meetings and workshops had already been conducted with different groups – from experts to lay persons – to meet the differing needs of future users. Thus, a workshop conducted with experts from local authorities, community groups and schools, for example, has revealed that, parallel to the web-offer, a form of student-appropriate assistance is necessary in order to conduct a teaching unit. The web-offer, according to teachers present, is too complex to allow students or even teachers to negotiate it without guidance – or rather, the web-offer requires too much effort without guidance. During the final stage of the project, the aim will be to increase the target group of the website through accompanying events such as an exhibition. To this end, preliminary talks have been held with local authorities, community groups, and sponsors who are interested in an exhibition tailored to their individual region. The exhibition will be made up of several modules: A basis providing an overview of land consumption in North Rhine Westphalia into which community groups and local governments can insert historic material of their region, information on up-to-date questions for their community, models, student projects, etc. Likewise, on the website material additional to the satellite and aerial images will be embedded. The Website will offer a field of continued expansion even after its official completion in December 2003. This relates equally to the addition of further examples of eco-friendly land-use as well as to the expansion to include other “Bundesländer” (states) and regions. Much visual material already exists: Road maps,

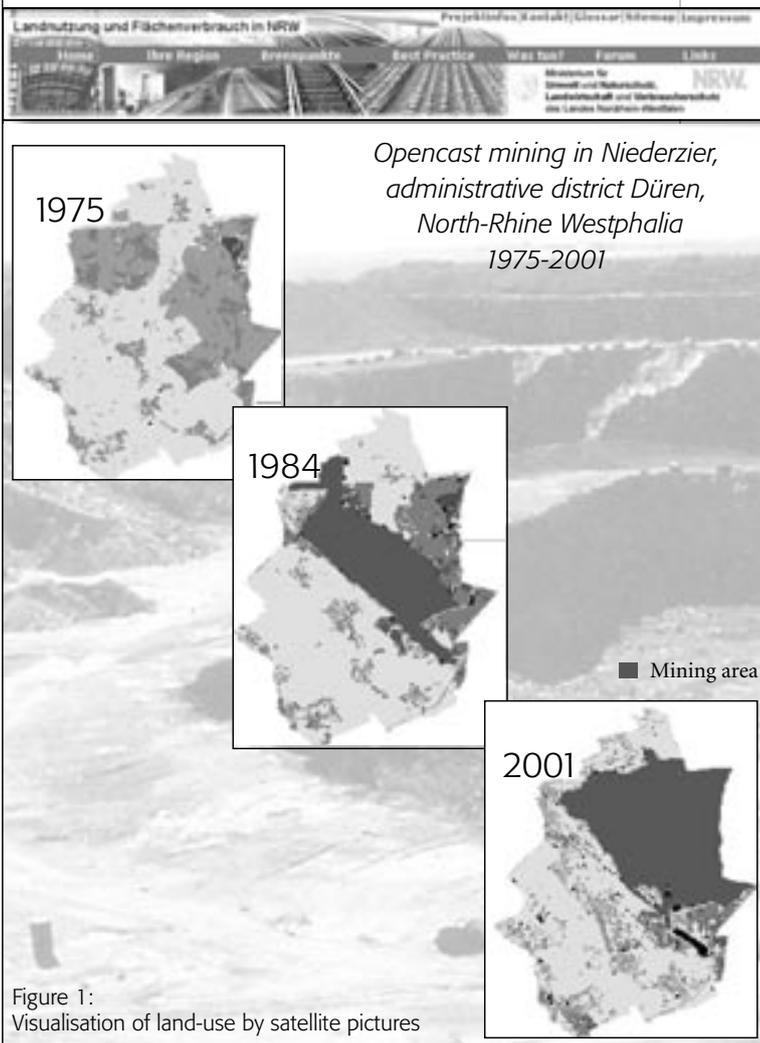


Figure 1:
Visualisation of land-use by satellite pictures

2 It is a given that experts in data-processing, in addition to the participating universities and scientists, are also making an important contribution to the realisation of the project. The data-processing is conducted as a dynamic application on the basis of a databank, which is necessary due to the amount and complexity of the data. Thus it is possible not only to place each city name and the corresponding image in the databank but also to pull the image of a selected city from the complete image of a „Land“ via the coordinates for each new request.

historical documents, a computer-based survey of flora and fauna etc.. Some of this material can be integrated into the project's Website. But the interchange with administrations and private organisations has shown that much more is possible. □

Information

Anke Valentin
Wissenschaftsladen Bonn e.V.
Buschstrasse 85, D-53113 Bonn
Tel: (+228) 201 61-23
Fax: (+228) 26 52 87
anke.valentin@wilabonn.de
www.wilabonn.de

Column

Science Shops? Every University should have one!

I will always remember the evening I stood in front of a non-descript concrete block building that stands unattractively on a romantically named Padua Avenue in Utrecht in 1997. Everyone had gone home but the light was burning bright in one of the offices – the Wetenschapswinkel on the 6th floor. Not long I found myself standing in the office, talking to graduate students, locals who wanted to repay the community from which they came something of the skills they had learned in their privileged education. They, on the other hand, were surprised that someone from a European institution should drive up in the evening in his own car, at his own, not even wearing a tie, just to find out what they did. My sense of anticipation did not desert me – the work they presented was what I had imagined.

Back in Brussels we were thinking of setting up a new policy programme, one of whose aims was to set up new models of dialogue between science and society at large, and to offer new policy tools to decision makers. So these wetenschapswinkel are only in Holland, I asked with anticipatory disappointment, thinking there was no possibility of an international network here. No they said, the model has been adapted in several other European countries, and even in the new democratised countries in part. Would they try to apply for EU funding if I could guarantee that if they failed they would be told why they failed?

One weekend night my phone rang at home. The same researcher I met in Utrecht was now in the US, excited about the idea of an international consortium, keen to ask many questions about the call for tender documents and what was meant by some of our more peculiar Commissionese, anxious to get the formalities right... The long transatlantic call was punctuated by what I thought was water running at home. Hold on, I had to close a tap. No they replied, we are sitting altogether in a hot tub in Massachusettes writing the most exciting document they had worked on for years. That was the birth of the first transnational project for Science Shops – SCIPAS as it became known in our world of acronyms.

SCIPAS was a collective act of faith that what science shops were doing locally had an international dimension and above all,

added value by networking as the kind of queries that were being received followed global patterns, as S&T concerns became more global. SCIPAS for the first time articulated and documented the various science shop models, laid the groundwork for a series of international publications and newsletters, and importantly developed the policy implications of Science Shops in the life of Universities. The work was taken onwards by the INTERACTS project, which tries to assess how they can develop dialogue with NGO's. By their continued exemplary work and dedication, they have carved a niche for themselves on the European Science and Society Action Plan, an integral part of the European Research Area.

And whereas the cry in 2001 was "Every university should have one", we are of an age where it is now possible to have an electronic or virtual science shop, where those living remote or disabled can have access to equally dedicated research. Additional to that I urge the editors and readers of this new journal to provide feedback. The policy thrust has been wisely labelled "Living Knowledge", and knowledge only lives by being transformed, re-configured and used to solve problems of everyday people which empowers them to act in their own interests if needed.

No one works at a science shop to become rich. But every project I have seen is carried forward by highly socially motivated individuals, engages the university and community in dialogue, and usually forever changes the nature of the group who commissioned the research. Innovative Universities should take note of this process to redress their increased leanings towards business research if they want to retain the goodwill of society at large. No cause is more noble.

A Brussels Sprout

Conference

Scientists are from Mars and the public is from Venus

A conference held on 16 October in Brussels discussed the relationship between the political decision-making process and the way scientific information is communicated.

GreenFacts Foundation is a non-profit organization based in Brussels that summarizes authoritative scientific documents on environment and health matters on the Internet in a language that is accessible to non-specialists. It was formed in December, 2001 by stakeholders from the academe, industrial groups and environmental NGOs concerned about the difficulties of communicating scientific information on environment and health issues.

The conference on 16 October was entitled "Conveying Science into Policy". It brought together environment and health stakeholders, journalists, policy makers and science communicators to examine the issues of science communication and its implications for policy-making.

Three parallel stakeholder workshops discussed matters of science communication, environment & health policies and the image of science in society. The workshops were followed by presentations of representatives from UNEP, the Commission, Princeton University, the Solvay Group and the IUCN. "Scientists are from Mars and the public is from Venus", concluded one participant after a discussion of the ways in which science should be communicated to the wider public. People now associate science with controversy and feel increasingly uncomfortable with it. Even communicators often find it hard to strike a sensible balance on presenting non-scientists the relevant facts needed to take decisions and form opinions. It was noted that scientists are never really satisfied with their work – they want to be sure before they communicate anything to the public. Scientists, however, need to communicate differently, not less to avoid overreaction or panic. Finally, science and its public perception is only one of the elements that have to be taken into account into political decisions, amongst other important factors such as social and economic aspects. Nevertheless there should be more collaboration and better exchange of information between scientists and journalists to avoid misunderstandings and communicate the possible benefits of scientific research.

Norbert Steinhaus

The results of the conference and its various stakeholder workshops are on www.greenfactsfoundation.org.

Interfaces between Science and Society

International Workshop,
Milano, 27th-28th November
The task of this workshop held in Milano (I) will be to explore the variety of interfaces between science and society, so that guidance on best practice in the areas of "industrialized research" and "science related public policy" can be achieved. Thus, while reviewing positive accomplishments and prospects for further progress, the discussion should include difficulties, disadvantages and dangers of such developments. In this way the workshop should contribute to enrichment and deepening of our understanding of these important new trends in the social relations of science and the new extensions of democracy.

Registration is possible until the 20th November. <http://alba.jrc.it/interfaces/>

European Forum of Citizens Advice Services

„4 C's on Connecting citizens to the EU, beyond just rhetoric",
Brussels, 4-5th December

The forum of citizens advice services organized by ECAS is a focal point for NGOs, free legal advice and legal aid associations, and all those dealing directly with individual citizens in the EU Institutions. The forum provides an overview of who is doing what, not only in the legislative area, but also in the attempts to improve two-way communication between the Institutions and citizens, and to solve their problems effectively.

The forum is expected to attract about 100 participants from existing and new EU member States such as non-governmental advice services, European information and advice services working with the Commission, Consumer groups, academics and researchers in the areas of migration policy and European citizenship, Commission officials from the different directorate generals dealing with fundamental rights, social rights, consumer protection, the recognition of qualifications and the exchange programmes connected to free movement and national civil servants and services dealing with free movement of people within the EU.

ECAS_conference@ecas.org, www.ecas.org

The Reality of Partnership

Celebrating community and university working together
Liverpool, 2nd December
The international day conference in Liverpool (GB) aims to bring together people who have a common interest in developing and promoting community - university partnerships, and sharing experiences of policy and good practice. The conference addresses academic and learning staff as well as community practitioners and local policy and decision makers.

[Sharon Lockley, slockley@liverpool.ac.uk](mailto:Sharon.Lockley@slockley@liverpool.ac.uk)

Wissenschaft :: öffentlich

Comprehensible Science on the Internet

On the web-pages of **Wissenschaft::öffentlich (Science :: public)** scientists of the University of Bielefeld (D) report in readily comprehensible language about their current research. **Wissenschaft :: öffentlich** is a nationwide hitherto unique internet-project which intends to inform about the latest research process and invites to a dialogue. The web-pages are presented in German only.

www.uni-bielefeld.de/wissenschaft-oeffentlich

Partnerships and Collaborations

ECSITE Annual Conference
Munich, 27-29th November
ECSITE (European Collaborative for Science, Industry and Technology Exhibitions); better known as the European network of science centres and science museums, holds its annual conference from 27-29 November at the Deutsches Museum in Munich (D). Besides workshops on professional capacity building in different areas of our daily activity, there are some strategic sessions on main challenges for the whole field such as „The Risk of Debating Uncertainty" or "Science Communication Outside the Science Centre".

The complete programme is available at www.ecsite.net.

Please Contribute

Making a magazine lives from participation.
Living Knowledge - International Journal of Community Based Research is a four-monthly publication. The next issue will be published in March 2004. The magazine welcomes the contribution of reports, articles, news, press releases and clippings, letters, contribution to discussions, job offers, internships, etc.. Reports and detailed articles should follow the editorial guidelines. Information about the magazine and the editorial guidelines can be found at the homepage of the science shop network (www.scienceshops.org). Please feel free to contact the editors for your questions and any support.

Unusual Gifts

Sponsorship for Biological Diversity
What's in a name? Quite a lot, BIOPAT thinks: a name, after all, is something very personal. With a one-off minimum donation of 2.600,- Euro to BIOPAT, you can 'immortalize' a name of your choice by having it assigned to a newly discovered species of plant or animal. With BIOPAT, donors have the certainty that part of the money they give will be invested in a prudent and informed way in promoting the identification of new animal and plant species at co-operating institutes in Germany, with the aim of extending knowledge about biodiversity. BIOPAT is a non-profit-making association. Its founding members include renowned institutions such as the Tropical Ecology Support Programme (Begleitprogramm Tropenökologie/TÖB) run by German Technical Cooperation (Gesellschaft für Technische Zusammenarbeit/GTZ). Various other specialist institutes, museums, and independent researchers also co-operate closely with BIOPAT.

http://www.biopat.de/englisch/index_e.htm