

20 years of the Wissenschaftsladen Bonn [Bonn Science Shop]

Case Studies

1. Civil society and sustainability

Like all science shops, the Bonn Science Shop has as its aim to support individual citizens, but it also wants to help social groups become actively involved in democratic processes. Thus the Bonn Science Shop also sees itself as the citizens' advocate, preparing expert knowledge in such a way that it becomes practical, useful information and guidance.

A typical project is the **“Start-up-Netzwerk Stiftungsgründung”** [**“Start-up network for setting up a foundation”**]. It helps Agenda 21 groups to become more independent of municipal funds. The **“Landnutzung und Flächenverbrauch”** [**“Land use and land consumption”**] project, which provides people in North Rhine-Westphalia with a basis for dealing practically with land consumption in their own region and thus for becoming involved in future decisions, follows the same approach of the citizen-oriented transfer of knowledge. But the focus is always on promoting sustainable development locally.

Sustainability in the context of Agenda 21 processes does not only have an ecological dimension. There are people of different cultures and religions living together in every town and every city. And it is also essential to encourage a willingness and an ability among citizens to debate - this is what democracy means - in this field. The Bonn Science Shop has been working for this since 2003 with its **“Religion und Gesellschaft”** [**“Religion and Society”**] activities.

2. Project: Land use and land consumption

North Rhine-Westphalia Environment Minister Bärbel Höhn set up the website www.flaechennutzung.nrw.de

More than 20 per cent of land in North Rhine-Westphalia has now been sealed by residential construction, industrial estates and roads. In Germany as a whole about 1,000,000 square metres of land disappear beneath stone and concrete day after day, according to the statisticians. And yet the citizens have no point of reference for what conservationists see as one of the biggest ecological problems in Germany at present. Because which ordinary citizen can link the figure with a concept, or visualise the consequences?

The “land use and land consumption in NRW” project run by the Bonn Science Shop illustrates landscape development and land consumption very factually, town by town, and with lots of examples into the bargain. The result of the project is an interactive website that went online at New Year 2004/5. The project was supported by North Rhine-Westphalia’s Department of the Environment which hopes to use this tool to make people more aware of the problem of land consumption and to highlight alternatives.

The website is both an information and a discussion platform. Satellite pictures, maps, statistics and explanatory texts can help users to get an overview of so-called focal issues in the state. For example, approximately how big an area is needed for the airport extension in Düsseldorf? What environmental pollution is involved in gravel extraction in Minden? What is the significance of preventive land-use management for flood control in a city like Cologne? But the main function of the website is to provide citizens with a local perspective. Satellite pictures from 1975, 1984 and 2001 literally show in which parts of Germany in particular a great deal has changed. The basic idea behind the project is that only people who understand how much the place where they live has changed in recent years, the extent to which houses and roads have replaced woods, meadows and fields, the consequences that this has for humans, animals and plants and the possible alternatives that exist will campaign for land to be used differently in the future.

“Large-scale land consumption has consequences for man and the environment. Thus, for example, rainwater on sealed surfaces can not be absorbed by the ground, and makes its way into the rivers via the sewer system. But rivers have less and less natural leeway, and when the water level rises they don’t have the spacious water-meadows. The result is flooding. We want to use the new website to encourage people to discuss the topic of land consumption and to highlight opportunities, for example, ways in

which habitats for animals and plants – and therefore man as well - may be re-created through projects for ‘unsealing’.”

(NRW Environment Minister Bärbel Höhn, taken from the press release issued when the website www.flaechennutzung.nrw.de was opened.)

The website enables citizens to use the latest scientific methods to observe and analyse land-use patterns in order to form their own opinions – not only about past patterns, but also about future land use.

In this way, it is hoped that the website, which is constantly expanding, will encourage debate and provide practical suggestions for action. Under “best practice”, users can see by means of different examples how land use in other municipalities becomes the business of the general public, and which players have joined forces on this issue.

Follow-up projects in 2005

In order to encourage debate about land use beyond the website, the Bonn Science Shop is taking joint action with its project partners in several follow-up projects. The idea is cooperation with conservationists, regional planners, associations, teachers and pupils. Special teaching materials are therefore to be developed. In addition to this, a touring exhibition is being jointly set up with five local authorities and districts integrating individual components from the participating partner local authorities and also background information on land use and land consumption in NRW. This will involve presenting, for example, key regional issues illustrated with historical maps, photos, film footage or newspaper clippings, and thus processed as exhibition components.

3. Project: Setting up a foundation

Advice and information for Agenda 21 groups

The open-air swimming pool in Weserberg has not belonged to the municipality for years. The *Initiative Bürgerstiftung Weserbergland [Weserbergland Citizens' Foundation Initiative]* has taken it over and turned it into an attraction for children and adults with numerous activities and events. The initiative's next coup is to build a community centre. In Leipzig it was the "*Bürger für Leipzig*" [*Citizens for Leipzig*] foundation that secured 17,500 euros for the renovation of the new Leipzig centre for the hearing impaired by means of a benefit auction. In Halle, the *Bürger.Stiftung.Halle [Halle Citizens' Foundation]* collected private film footage and had it made into a film for the cinema. The Foundation supported projects that help to improve the "spiritual and social climate in the city – both for the present, and for future generations".

Typical examples: citizens' foundations are a good opportunity for continuing local Agenda 21 processes successfully, even in times when community chests are empty. The problem is that many initiatives fail because such a foundation is set up. This is why the Bonn Science Shop comes to the aid of Agenda groups that want to set up a citizens' foundation with its project "*Start-up Netzwerk Bürger- und Gemeinschaftsstiftungen für Nachhaltigkeit und lokale Agenda 21*" [*Citizens' and Community Foundations Start-up Network for Sustainability and local Agenda 21*], which is supported by the Federal Ministry for the Environment and the Department of the Environment.

"Setting up a foundation is probably the most elegant form of sustainable investment in the advancement of the common good". ("Ratgeber Stiften" [Guide to Foundations], Bertelsmann-Stiftung [Bertelsmann Foundation], 2003)

Literature:

Anke Valentin:

Netzwerk Bürgerstiftungen für Nachhaltigkeit [Citizens' Foundations Network for Sustainability]
Information leaflet, 2003

Theo Bühler, Anke Valentin:

Stiftungen – Projektagenturen für Nachhaltigkeit [Foundations – Project Agencies for Sustainability], 2002

Theo Bühler:

*Projektförderung durch
Stiftungen – Umweltschutz
und lokale Agenda 21
[Developing projects through
Foundations – Protection
of the Environment and local
Agenda 21], 2001
(out of print)*

The project runs from June 2002 to August 2005.

The Bonn Science Shop has developed ideas for two different target groups:

1. In 2003, the Bonn Science Shop set up the internet platform www.stiftungsnetz.wilabon.de for foundations that are already established and also for initiatives that simply want to exchange with others without obligation. The site stores information and is being further expanded to create a discussion forum. In addition, this group receives information via email on various topics and on what the Bonn Science Shop has to offer.

2. In contrast, the Science Shop supported young foundations and start-up initiatives already in the process of setting up foundations with individual advice and experts' workshops. They include groups from Aachen, Bad Nauheim, Breuberg, Düren, Erfurt, Gelderland, Giessen, Halle, Cologne, Leipzig, Parchim, Recklinghausen, Treptow-Köpenick, Zittau and also BUND (*Bund für Umwelt und Naturschutz Deutschland*) [*League for the Environment and Nature Conservation, Germany*], the German branch of Friends of the Earth. With all start-up initiatives, the question may arise as to how to make as many citizens as possible enthusiastic about setting up the foundation, which aims the foundation should support and how the endowment can be increased in the long run.

For the year 2004, the Bonn Science Shop addressed the following central problems with the initiatives involved at three workshops:

- setting targets for citizens' foundations and establishing a public profile
- dealing with conflicts and difficult dialogue partners
- obtaining endowments and grants for projects

In order to guarantee continuous specialist support, the management consultant, trainer and supervisor at the CiF (*Cooperative für interdisziplinäre Forschung, Beratung und Weiterbildung*) [*Cooperative for Interdisciplinary Research, Consultation and Further Training*] in Berlin, Renate Rieger, supported the initiatives both during and between workshops.

In 2005, the Bonn Science Shop will also continue to give practical support to participating citizens' foundations in the process of being set up with advice and information. In parallel with this, a set of practical guidelines will be developed to provide sound information for citizens at both "novice" and

“advanced” stages. In this way, it will report on e.g. the start-up process, the model, forms of charter and fiscal support right up to examples of foundations set up successfully.

4. Activities in the field of religion and society

Providing an insight into different lifestyles

Members of different religious groups live together in almost all the major German cities – or rather, they usually live their lives peacefully side by side. And yet there are hidden dangers in the very fact that probably most Christians generally know as little about Muslims as vice versa. Rigid prejudices are quickly established; Muslim communities come under the general suspicion of being radical, and some Christian sects are viewed as being a little bizarre, Buddhists as being unworldly but peace-loving.

The aim of the “Religion und Gesellschaft” [*“Religion and Society”*] activities set up by the Bonn Science Shop in 2003 is to make the lifestyle of the “foreigner next door” transparent and to replace stereotypes with factual knowledge. With his fascinating and factually sound book on 30 religious communities in Bonn, the religious scholar Krischan Ostenrath took the first step in thrusting open the doors to other religious communities for the citizens of Bonn, thus encouraging an objective debate. The Bonn Science Shop’s expert continued this approach in 2004, in particular with visits to individual religious communities. Citizens were able to learn about, discuss and ask critical questions about the beliefs and lives of Bonn’s Muslims, Jews or Christian sects locally with religious scholars. The series of visits known as “the foreigner next door” is being continued in 2005.

At the same time, cooperation between the Bonn Science Shop and *Arbeitskreis Religiöse Topographie Köln/Bonn e.V. [Cologne/Bonn Religious Topography Research Group]* (an association of active religious scholars from Cologne and Bonn) has succeeded in creating a distinctive profile as an agent for intercultural awareness training beyond Bonn. This is demonstrated by last year’s invitations to give lectures and publish white papers, but also by the openness encountered by those responsible for preparing a religious topography of Cologne.

In connection with this, the Bonn Science Shop is developing a project design in collaboration with the *Arbeitskreis Religiöse Topographie Köln/Bonn* and also the University of Cologne, the city of Cologne and religious groups for transferring the Bonn experiences to the city of Cologne. In this case, however, unlike in Bonn, it will not “only” be a question of a survey of the (disproportionately more diverse) religious life in Cologne, but above all of the question “Can we extract actual political and social recommendations for action from the fact that the various cultures live together here with relatively little conflict?”

To conclude, in 2005 Krischan Ostenrath will collaborate on the project "*Religiöse Vielfalt in NRW*" [*Religious Diversity in NRW*], conducted by the University of Bochum.

5. Electromagnetic radiation

A danger to health

Operating companies usually adhere to the limits that apply to mobile phone installations and high-voltage power lines. And yet many residents living close by feel uneasy. And not without reason.

By now, the results of more and more international studies have indicated that effects on the health from electromagnetic fields have so far been underestimated. What is more, most people are exposed to a variety of electromagnetic fields, including, for example, mobile phones, high-voltage power lines, substations, underground cables or even the electrical installations in their own homes.

How are such contamination levels to be evaluated? What is potentially dangerous, in spite of the fact that legal limits are being observed? Which risks are negligible? For about nine years Dr Klaus Trost, the Bonn Science Shop's expert in electromagnetic radiation, has been advising citizens and organisations. In that time he has responded to just under 5,000 enquiries on the subject of electromagnetic radiation, and has taken electromagnetic measurements locally more than 300 times. Most of the enquiries and requests for measurements concern mobile telephone systems. Enquiries and measurements connected with sales of property near high-voltage power lines and substations have increased.

Also, the majority of people requesting measurements in 2004 were private individuals. But the Bonn Science Shop's measurements clarified things for local authorities, operators of mobile phone networks and other companies. Dr Trost gave lectures mainly to local authorities, political parties and also associations, environmental agencies, adult education centres and the NRW Consumer Advice Centre.

In the course of these, the Bonn Science Shop's electromagnetic radiation expert communicated information about:

- potential effects of new mobile phone masts and UMTS masts on health (particularly at or near schools and nursery schools)
- the extent to which substations, high-voltage power lines or railway lines damage the health of people living nearby, and how one can protect oneself against them
- the opportunities that exist for cutting down radiation from electrical installations in one's own four walls
- how great the risk of radiation from mobile phones should be estimated to be, and how risks can be minimised
- the limits for radiation exposure that exist in Germany, and how these can be integrated internationally.

Services

- telephone or written advice on technical and health questions regarding electromagnetic fields and waves
- measuring electromagnetic fields and waves in the frequency range 5 Hz. to 3 GHz.
- drawing up reports and expert opinions
- lectures and seminars

Publications

- *Elektrosmog-Ratgeber Herauskauf [Buyout Guide to Electromagnetic Radiation]*
- *Infoblatt Elektrosmog – Wohnen und Schlafen [Information leaflet on Electromagnetic Radiation – Living and Sleeping]*
- *Infoblatt Elektrosmog – Mobilfunk und Gesundheit [Information leaflet on Electromagnetic Radiation – Mobile Telephone Systems and Health]*
- *Infoblatt Elektrosmog – Büroarbeitsplatz [Information leaflet on Electromagnetic Radiation – Working in an Office] (out of print)*
- *Broschüre Mobilfunk – (r)eine Vertrauenssache? [Brochure on Mobile Telephone Systems – (purely) a Matter of Trust? (in collaboration with the NRW Consumers' Association)]*

Along with the revised version of the out-of-print *Infoblatt Elektrosmog – Büroarbeitsplatz*, brochures on the topics of high-voltage power lines and substations, and also on opportunities for redevelopment and shielding in the case of electromagnetic exposure will be prepared in-house in 2005.

In addition to this, the Bonn Science Shop will look at the topic of mobile telephone systems in Bonn, on the 10th anniversary of the electromagnetic radiation monitoring station, in a short study.

6. Textiles

Making the right choice

Whilst the demand for organic food keeps rising in Germany, fewer and fewer consumers are choosing clothing that has been certified as ecological. No wonder, faced with the motley selection of brands which hardly anyone can make sense of any more.

Even natural fibres such as wool often contain undesirable chemical residues. Textile manufacturers use more than 7,000 chemicals to process their fabrics. They give us non-crease blouses, trousers with a deep, glowing black appearance, non-shrink sweaters and sportswear that smells good even when we sweat. In the case of the so-called eco-textiles, the range of chemicals is more or less rendered safe.

The Bonn Science Shop has been raising awareness of the compatibility of textiles with health and the environment. The expert Dr Cornelia Voss aims to make consumers aware of what is healthy and what is not. In 2004 the scientist compiled a survey of popular brands and what they mean. This revealed that the market leader “Naturtextil best” and the label “sanitised” are worlds apart. Whilst the former sets high standards as far as raw materials and manufacture are concerned, the term “sanitised” has, in reality, nothing to do with health; on the contrary, it involves antibacterial agents which are at the same time harmful to health and unnecessary.

Dr Cornelia Voss has been working as a consultant on the topic of “sustainable use of textiles”, in addition collaborating on various committees such as the “*Arbeitskreis Cotton des Pestizid Aktionsnetzwerk e.V.*” [“*Cotton Research Group of the Pesticide Action Network*”] (PAN Germany, Hamburg), and the supervisory committee of the *Internationaler Verband der Naturtextilwirtschaft* [International Association Natural Textile Industry] (IVN, Stuttgart). The aim is to help develop quality standards for textiles, to provide the consumer with scientific insights and to organise eco-products on the market in a sustainable way.

7. Building and living ecologically

Information leaflets for home-builders and developers

Do you often suffer from headaches, insomnia, watering eyes or dry mucous membranes, without knowing why? The cause of these and other ailments could be your own four walls.

Many building materials and furniture contain harmful substances which can damage your health. Harmful substances found indoors are, for example, asbestos, which is carcinogenic, (used in old PVC floor coverings and night-storage heating systems, among other things), formaldehyde (particularly in chipboard, but also in varnishes and tobacco smoke), volatile organic compounds (e.g. as solvents in paints, varnishes and adhesives) or also softening agents (e.g. in floor coverings).

The Bonn Science Shop provides answers to questions on anything connected with sustainable building. It aims to substantially minimise pollution caused by harmful substances or, even better, to prevent it occurring in the first place. In this connection, the most important requirement is to identify the source of the harmful substance. Antje Lembach, an expert in sustainable building, provides advice if pollution is suspected in the home, evaluates analysis results and makes recommendations for renovation, for example for removing wood preservatives and mildew. Collaborating with the company Wartig Chemieberatung, the Bonn Science Shop takes indoor measurements locally.

In the context of home renovation or house plans, the Bonn Science Shop also provides information on building materials that are ecologically safe and on the labels by which these are identified. In 2004, queries were mainly from private individuals, but also came from public institutions such as nursery schools or schools.

In addition, Antje Lembach also advises on the eco-friendly elimination of insects from the home, and gives lectures on this topic. Because indoor air can be contaminated not only by building materials and furniture, but also by biocides used in pest control.

Services:

- telephone, face-to-face and written advice on questions of health
- assessment of harmful substances indoors
- drawing up reports and expert opinions
- lectures and seminars

8. Mobility and sustainability

Looking after both the environment and the wallet

Did you know that your car's air-conditioning system guzzles up to 3 litres per 100 kilometres, that taking a bike rack when you go on holiday can drive up fuel costs by 50%, or that switching off your engine at a traffic light or barrier pays off after only 15 seconds?

Motorists can save 20 to 30 per cent of their fuel if they adapt their driving habits in several ways – and this applies even to vehicles with a conventional automatic gearbox. This was revealed by test drives and investigations by the Bonn Science Shop. The Bonn Science Shop uses press releases on driving tips and the brochure *Der Weg zum sparsamen Fahrstil [How to Drive Economically]* to show in a technically sound and practical way what motorists can do in practice to save fuel.

Publication:

Andreas Pallenberg, Dr Klaus Trost:
Der Weg zum sparsamen Fahrstil,
2nd edition

9. Diet and health

Thinking outside the (lunch) box

The health costs arising from malnutrition, obesity and lack of exercise amount to over 70 billion euros in Germany.

The World Health Organisation estimates that one person in six worldwide is overweight. Research into school admissions in Germany showed that in this country one child in five and one young person in three is obese.

The Bonn Science Shop would like to raise citizens' awareness of the connection between health, exercise and diet. The diet and nutrition expert Dr Cornelia Voss regularly publishes specialist articles on the topic. She provides answers to questions that many people have on the tips of their tongues, such as "What is the best way to lose weight without damaging my health?", "What kind of diet will keep children fit throughout the school day?", "How dangerous is acrylamide?", "What are phytochemicals?" and "How can I protect myself against harmful substances in food?"

The expert advises parents and institutions such as nursery schools and schools, and provides adult-education events on individual topics.

On top of this, the Science Shop is planning a project for mothers and children. It will use creative elements as well as ecological teaching elements, fun and tips for everyday life so that parents and their children learn about and come to appreciate a healthy and sustainable diet.

10. Art d'eco

Communicating information on environmental topics through art and the theatre

Solar power – in an artistic production

Grandfather and grandchild stand in front of Wilfried Duwentester's huge, burning wooden sculpture, fascinated by the size and power of the fire, thus doing exactly what the artist wants: Duwentester wants to heighten perception, wants to show what is in a tree, what is in Nature, which many people walk past so casually; for example, energy, stored for years and converted via the process of photosynthesis. Artists created excitement among visitors to the solar festival in Hanover with the topic "the environment, the people around us, creation". The event was designed and organised by the Bonn Science Shop.

The 2004 Bonn Science Shop used this event to continue the project idea "*Kunst als Medium der Umweltbildung*" [*Art as a medium of environmental education*]. The aim is to provide a contrast to the lecturing approach through roadshows with an ecological theme. The Bonn Science Shop has been developing and coordinating projects with artists concerned with the topic of the environment under the motto "*Art d'Eco*" for eleven years.

Environmental theatre UNVERPACKT [UNWRAPPED]

What lurks behind the terms "power" and "energy"? What problems can be involved in power generation (e.g. greenhouse effect), and what opportunities are there for producing power from wind, water and solar energy? In 2004 alone, about 10,000 children watched the fairy tale about energy conservation, "*Wackelkontakt mit Kabelsalat*" [*Loose Connection with Spaghetti Syndrome*] in the environmental theatre UNVERPACKT. An energy-conservation project in the German state of Bremen engaged the Bonn Science Shop's company of actors for 70 performances which took place in primary schools in the cities of Bremen and Bremerhaven. The two organisers, the BUND regional association of Bremen and the project *3/4 plus* in Bremerhaven, managed to obtain sponsorship from Bremer Energiekonsens GmbH.

In about 100 performances given throughout Germany, UNVERPACKT aimed to come across to its audiences in a way that was not didactic or admonitory. The acting company hones the young audiences' awareness of environmental topics in a way that is emotional, funny and exciting all at the same time. And in a playful way, so to speak, it sends them home with a few ideas about things that even children can do to conserve energy.

UNVERPACKT will also perform in North Germany again in 2005. Due to its great success with the fairy tale about energy conservation, *“Wackelkontakt mit Kabelsalat”*, the Bonn ensemble will make a guest appearance in Bremen primary schools in 2005 with the water show *“Tröpfchens Abenteuer”* [*“Droplet’s Adventure”*]. The Senator for the Environment in the state of Bremen has already promised financial support.

The environmental theatre UNVERPACKT has worked on various environmental themes to suit children. UNVERPACKT’s repertoire contains:

- *“Wackelkontakt mit Kabelsalat”* (environmental fairy tale about conserving energy)
- *“Tröpfchens Abenteuer”* (exciting journey through the water cycle)
- *“Die Müllgeister”* [*“The Garbage Ghosts”*] (story with clowns about preventing waste)
- *“Baumgeflüster”* [*“Whispering Trees”*] (environmental fairy tale about urban ecology)
- *“Kompost & Co”* [*“Compost & Co”*] (meeting with compost dwellers)
- *“Kleiner Engel in grosser Gefahr”* [*“Little Angel in Deadly Danger”*] (fairy tale about avoiding waste at Christmas)

But the theatre also gives stage and street performances for young people, adults and families:

- *“Was gestern noch der Abfall war, ...!”* [*“Yesterday’s Rubbish ...!”*] (revue on preventing waste)
- *“Alle Jahre wieder!”* [*“Every year!”*] (revue about a waste-free Christmas)
- *“Die wilde Müllkippe”* [*“The Untidy Rubbish Dump”*] (clown sketch)
- *“Homo müllensis”* [*“Homo rubbishus”*] (clown sketch)
- *“Die Würmer”* [*“The Worms”*] (clown sketch about composting)
- *“Zukunftsspiele”* [*“Plays for the future”*] (amusing, cryptic play about local Agenda 21)