



ecosan – newsletter - no. 10 - 11/2003 - english

This regular electronic news bulletin from the ecosan project of GTZ, Germany, addresses a network of friends and professionals involved in initiatives and projects in the field of closed-loop wastewater management and sanitation.

Dear friends and colleagues!

Welcome to GTZ's ecosan newsletter in English, French, Spanish and German; issue no. 10!

The latest editions of the English version are distributed directly via e-mail in the globally-readable, text-only format. You can also download German, French, Spanish and English versions as easy-to-read pdf files from our website.

!!! Downloads:

German: <http://www.gtz.de/ecosan/download/nl10dt.pdf>
Spanish: <http://www.gtz.de/ecosan/download/nl10esp.pdf>
French: <http://www.gtz.de/ecosan/download/nl10fr.pdf>
English: <http://www.gtz.de/ecosan/download/nl10eng.pdf>

Your ecosan team hopes you enjoy our current issue!

Your contribution

This medium lives through interaction. So please keep sending your suggestions, requests and information to be published via this newsletter to the addresses at the end of this issue. Thank you for any contribution!

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- **Water Reuse: Understanding Public Perception and Participation**, WERF Report
- **Impact of Surface Storage on Reclaimed Water**, IWA Publication
- **Water Recycling in the Mediterranean Region**, IWA Symposium Proceedings
- **Looking back, looking ahead: five decades of challenges and achievements in environmental sanitation and health**, WHO Publication
- **Sanitation and the poor**, Well Publication
- **Rainwater Harvesting Manual**, Indian Centre for Science and Environment (CSE)

**recent publications
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- **Information materials on micro-irrigation and value chains**, a SDC Publication

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- **FAO initiative**: Free access to scientific literature in the agro-sector for students and researchers of developing countries includes water journals
- **Private Participation in Infrastructure (PPI) Project Database**
- **Cap-net**: Data base for capacity-building networks in Integrated Water Resource Management

**new upcoming
events**

- | | |
|--------------------|--|
| 27-29 / 11 / 2003 | Biogas & Bio energy in Agriculture , Rot am See, Germany |
| 05-06 / 02 / 2004 | The Farmer as Energy-Producer (...) , Bonn, Germany |
| 04-07 / 02 / 2004 | Delhi Sustainable Development Summit 2004 ; New Delhi |
| 11-13 / 02 / 2004 | On-site Wastewater Treatment & Recycling , Murdoch, Australia |
| 30/3 -2 / 4 / 2004 | 3rd ASIAWATER 2004 , Kuala Lumpur, Malaysia |
| 28/3 -1 / 4 / 2004 | ENVIRO 04 Convention & Exhibition , Sydney, Australia |
| 02-06 / 05 / 2004 | Water Inst. of Southern Africa (...) Cape Town, South Africa |
| 25-27 / 05 / 2004 | Water and Wastewater Europe 2004 , Barcelona, Spain |
| 30-31 / 05 / 2004 | World Renewable Energy Forum , Bonn |
| 01-04 / 06 / 2004 | RENEWABLES 2004 , Bonn, Germany |
| 27/6-01/ 7 / 2004 | World Water & Environ. Res. Congress , Salt Lake City, USA |
| 29/6-02/ 7 / 2004 | IFAT Fair China 2004 , Shanghai, China |
| 13-15 / 09 / 2004 | Water Middle East , Bahrain |
| 19-24 / 09 / 2004 | IWA World Water Congress and Exhibition , Marrakech, Morocco |
| 28/9-1/ 10 / 2004 | Aquatech Amsterdam 2004 , Amsterdam, Netherlands |
| 29/9-1/ 10 / 2004 | Waste Management 2004 , Rhodes, Greece |
| Nov - Dec / 2004 | Global WASH Forum ; Dakar [P O S T P O N E D] |

**workshops
training courses**

- 10-21 / 11 / 2003 **Online course on ecological sanitation – closing the nutrient loop**

general information

Contact and ecosan newsletter information

In-house news

Popular GTZ ecosan posters entitled “Shortcomings of conventional wastewater systems” and “Advantages of ecological sanitation systems” can be ordered again

The GTZ ecosan posters entitled “shortcomings of conventional wastewater systems” and “Advantages of ecological sanitation systems” have been reprinted. They are available in four different sizes (A0; A1; A3, A4) and can now be ordered again.

!!! Order at ecosan@gtz.de

A4 posters can be downloaded as a pdf-file from the GTZ ecosan website.

!!! Download from <http://www.gtz.de/ecosan/download/ecosan-poster.pdf>
<http://www.gtz.de/ecosan/download/ecosan-poster-conv.pdf>

“Guidelines for the preparation and implementation of ecosan projects” and accompanying toolbox drafted by GTZ

Decision-makers and planners currently lack a knowledge base that would enable them to adopt ecosan approaches to solve their sanitary problems. There is a shortage of information not only concerning the technical options available, but also regarding the process of successfully preparing and implementing holistic ecological sanitation solutions. At the same time, there has been a dramatic increase in the number of requests for assistance in the introduction of ecosan projects.

As a response to the increasing need among decision-makers, planners and practitioners, the GTZ ecosan project has begun developing “guidelines for the preparation and implementation of ecosan-projects” based on the WSSCC’s HCES approach, and an accompanying toolbox.

The draft of the guideline and toolbox has now been circulated to an international working group which emerged from the 2003 Lübeck ecosan symposium for an e-mail-based exchange and is to be discussed during a workshop organised jointly by GTZ and WSSCC (see below).

!!! Download [6,5 MB] the draft guidelines as a pdf-file from

<http://www.gtz.de/ecosan/download/gtz-ecosan-guideline-2nddraft-031031.pdf>

GTZ-WSSCC ecosan/HCES workshop on 3-5 December in Eschborn, Germany

To discuss, coordinate and cross-fertilise the efforts undertaken by several organisations to develop ecosan-related guidelines, a joint WSSCC and GTZ workshop is to be held on 3-5 December at GTZ Head Office in Eschborn near Frankfurt, Germany. Topics will include:

- The current status of the guidelines on implementation of the Bellagio Principles (WSSCC)
- The current status of a survey of tools and guidelines on how to implement ecosan projects developed by EcoSanRes
- The current status of the “guidelines for the preparation and implementation of ecosan projects” developed by the GTZ ecosan project

In addition to these developments, future international ecosan activities such as the international promotion of ecosan, planning for the presentation of ecosan at upcoming international events in 2004, the possible place and date for the next international ecosan-symposium, and the presentation of joint publications, such as an ecosan decision makers guide, will be discussed. Participating organisations include EcoSanRes, IRC, WASTE-ecosan, EAWAG-Sandec, UNESCO-IHP, WSSCC, and GTZ.

Information on the results of the meeting will be provided in the ecosan newsletter.

The final conference proceedings of the “2nd International Symposium on Ecological Sanitation” held in Lübeck in April 2003 can now be ordered

The final conference proceedings of the 2nd International Symposium on Ecological Sanitation organised by GTZ and IWA in Lübeck on April 7-11, 2003 can now be ordered.

During the symposium 350 experts from 60 countries discussed their experiences, questions and visions for ecosan. The publication contains more than 150 articles (keynotes, posters, papers) covering about 1000 pages. Some of the papers have undergone a peer reviewing process. Publication of the conference proceedings is scheduled for the beginning of 2004. Copies will be available from the GTZ ecosan office and can be ordered at: ecosan@gtz.de. As of January 2004 the final proceedings will also be available as a download at the GTZ ecosan web-site.

!!! Order the proceedings under ecosan@gtz.de

New members of the GTZ ecosan team

We are pleased to welcome the new trainees to the ecosan team:

Lucía Hernández Leal from Mexico: Master student in Environmental Engineering, Technical University Hamburg-Harburg, Germany (Germany: September 2003 - February 2004)

Inés Lacayo Rodriguez from Nicaragua: Master student in Tropical Technology, University of Applied Sciences Cologne, Germany (Germany: September - December 2003; Namibia: February – June 2004)

Nathasith Chiarawatchai (Bie) from Thailand: Master student in Environmental Engineering, Technical University Hamburg-Harburg, Germany (Germany: January - March 2004)

Jos van Straaten from Canada: B.Sc. Water Resource Management (Germany: January – April 2004)

Viviana Avendaño from Colombia: microbiologist, Master student in Tropical Technology, University of Applied Sciences Cologne, Germany (Cuba: September 2003 – December 2003)

Christiane Jung from Germany: student of geo-ecology at the Technical University of Brunswick, Germany (Cuba: November 2003 – March 2004)

Kristian Franzius from Germany: working student of environmental engineering at BTU Cottbus (Namibia: February – June 2004)

Our new junior professional is:

Florian Klingel from Germany. Graduated as an Environmental Engineer from the Federal Institute of Technology Lausanne (EPFL), 2 ½ years of professional experience in water supply and sanitation projects with EAWAG-SANDEC and GWK Consult GmbH.

News

Chance and challenge for Germany's export economy: ecosan

The access of German business to international water and wastewater markets was the central issue of a cooperation forum held on 5 November 2003 by the business promotion association Bayern Innovativ. Source-separating, recycling-oriented and decentralised sanitation systems are a promising new approach to solving water and wastewater problems in industrialised and developing countries alike. Providing modern solutions for this emerging market will be both a challenge and a very promising opportunity for the German economy with its innovative and export oriented industries.

This opinion was shared by speakers including Prof. Herman H. Hahn, President of ATV-DVWK (German Association for Water, Wastewater and Waste), Prof. Peter A. Wilderer, Professor at the Technical University of Munich and holder of the Stockholm Water Prize 2003, and Christine Werner, GTZ ecosan project manager.

!!! Further information at <http://www.bayern-innovativ.de/>

!!! Contact Christine.Werner@gtz.de

Sanitation in Switzerland is undergoing changes: Willi Guyer, EAWAG

EAWAG-News has devoted its latest edition (N° 57) entirely to changes in the sanitation system in Switzerland: "Sanitation is undergoing changes" Willi Guyer, a member of the board of directors of the Swiss Federal Institute for Environmental Science and Technology (EAWAG) states in his editorial. "It is evident that besides the end-of-pipe solutions that have predominantly been used in the past, socio-economic processes will become more important." Topics such as the limitation of conventional sewerage, the acceptance of NoMix technology, alternative sanitation approaches for developing countries, leakage problems in the sewer systems, and others are covered in this edition of EAWAG-News (in German; English and French editions to be published soon). Order and download:

http://www.eawag.ch/publications_e/eawagnews/e_index.htm

USA: EPA refuses to regulate dioxins in sewage sludge

The Environmental Protection Agency (EPA) has decided not to regulate dioxins in land-applied sewage sludge, claiming that five years of studies had showed there was no significant risk to human health or the environment. The announcement came on the eve of a court-imposed deadline for the government to settle lawsuits filed by the Natural Resources Defense Council (NRDC) and environmentalists in Oregon more than a decade ago requiring EPA to limit toxic pollutants in sludge. EPA's analysis showed that only 0.22 new cases of cancer could be expected over a span of 70 years for the highest risk group: farmers consuming their own crops and meat products. EPA officials said the minuscule additional risk posed by sewage sludge did not warrant the cost of imposing new regulations on sewage authorities and treatment plants, which have opposed the additional regulations. Critics said EPA's decision was "irresponsible" as "sewage sludge is the second greatest source of dioxin exposure in the United States today".

!!! **Web address:** EPA - Use and Disposal of Biosolids (Sewage Sludge),
<http://www.epa.gov/waterscience/biosolids/>

!!! **Contact:** Nancy Stoner, director, NRDC Clean Water Project,
nrdcinfo@nrdc.org, <http://www.nrdc.org/water/default.asp>

Washington Post / Oakland Tribune, 18 Oct 2003; **EPA**, 17 Oct 2003; **NRDC**, 17 Oct 2003; IRC Newsletter 43-44, 5 Nov 2003

Award for nature-oriented wastewater concept for developing countries

The German company HUBER-Technology is offering an award for nature-oriented wastewater technologies for developing countries. Engineering and science students enrolled in German universities are eligible to apply for the award. Candidates should submit a new concept for wastewater disposal, and if possible water reuse, that can be planned, implemented and operated autonomously by the population in developing countries. They should demonstrate the concept using the example of an arid area with poor agricultural soils. A scientific jury will select the best three original and promising contributions for the award. The deadline for submissions is 31 December 2003.

!!! **Contact:** oliver.christ@huber.de

!!! **Further information at** http://www.huber.de/ueberuns/klaertechnik_preis.htm

Ecosan makes an important contribution to integrated water resources management

On 23-25 October 2003, the German Institute for Development Policy (DIE) held a workshop on integrated water resources management (IWRM). Participants from all the major German development organisations discussed the current state of IWRM and its implementation in practice. Stimulated by a paper by Christine Werner (GTZ ecosan project manager), the importance of ecosan within IWRM was also discussed. The participants agreed that with its multi-sectoral, integrative and holistic approach ecosan is an indispensable tool for putting integrated water resources management into practice. The GTZ presentation is available as download.

!!! **Download from** <http://www.gtz.de/ecosan/download/GTZ-Paper-IWRM.pdf>

Job Vacancy

Environmental management/Protection of natural resources in Benin-Cotonou (2004-2007)

Tasks: Provision of advisory services to Benin's Ministry of the Environment on topics such as environmental information and monitoring systems, national environmental reporting, land use planning, national reports for the environmental conventions (desertification, biodiversity etc.) and at the negotiations of the international conferences of the parties.

Qualifications: Economic, social or environmental scientist or geographer; experience in institutional development and project management, organisational development, knowledge management; ability to present content both orally or in writing in a clear, client-oriented way. Should be confident in German and French.

For more details, please go to:

<http://www4.gtz.de/personal/jAutoriX/HTML-GUI/pool.jsp?idoc=RSTMKSRRTO>

Pilot project news

...German ecosan cooperations

Botswana – Namibia – Lesotho: ecosan promotion and information tour

In September 2003, the GTZ ecosan project supported ecosan initiatives in Botswana, Namibia and Lesotho by introducing workshops within the scope of a three-country ecosan promotion and information tour. The workshops were organised by GTZ/IUCN/DED in Botswana, GTZ/BORDA in Namibia, and GTZ/DED in Lesotho, each in cooperation with local government representatives. Aussie Austin of CSIR South Africa also joined the initiative.

In **Botswana**, ecosan systems are already being implemented in three rural communities within the context of a regional natural resources management programme; however the workshop also aroused interest in introducing ecosan systems in urban areas, and in considering closed-loop water and waste management in the National Master Plan on Water.

In **Namibia**, a workshop provided a short, one-day introduction into the ecosan concept. The participating ministries and institutions subsequently requested more detailed information; the GTZ ecosan team also discussed two pilot projects and further cooperation with the Namibian-German Service Delivery Promotion Project.

In Maseru, the capital of the Kingdom of **Lesotho**, more than ten governmental departments played an active part in preparing the first national ecosan workshop. After the three-day workshop, the steering committee decided to continue working together and to prepare the next steps for ecosan implementation in the country.

!!! If you are interested in more information, contact: heinz-peter.mang@gtz.de

Botswana: GTZ / DED / IUCN / PTB ecosan concept ready for expansion

In collaboration with the Permaculture Trust of Botswana (PTB) and with funding and support from GTZ and DED, the World Conservation Union (IUCN) has been working on introducing the ecosan concept in Botswana since June 2001. The most important results achieved so far include: 20 urine-diverting toilets have been put in place and are being used by the relevant households; a number of compost structures have been developed and are being used to "sanitise" the faecal matter from the toilets by mixing it with other organic waste and moisturising it with overnight urine; around ten trial plots have been set up to test how vegetables react towards urine only and a mixture of urine and compost; schools and agricultural demonstrators are helping to show how urine can be used to grow vegetables; and the toilet structures are progressively being improved and adapted to meet the needs of the people and their willingness to maintain them properly. All these results have generated widespread attention and interest, and the concept seems now ready to be applied by other community members.

!!! For further information: contact ecosan@gtz.de or Cathrine@iucnbot.bw

China: Baseline Study in Changzhou Eco City Program now concluded

The Eco City Planning and Management Programme is a Sino-German cooperation programme, implemented by the municipal governments of Yangzhou and Changzhou and GTZ. The framework conditions for implementing ecosan were analysed in a baseline study conducted in September and October 2003 by Ms Mareile Zoellner (GTZ trainee), Mr Pan Tao and Ms Du Xiaofei: The study area in Hou Yu village is a purely residential area for around 300 households without industry. The main topics to be addressed by ecosan in this area are the problem of water pollution from untreated household wastewater discharge and uncontrolled waste dumping, which need to be solved. In addition, sanitation for poor households needs to be upgraded and a decentral treatment system introduced. The most promising factors are the major horticultural activities in this area, which generate a demand for fertilisers and irrigation water and thus for the reuse of urine, faeces and treated wastewater.

!!! For more information contact ecosan@gtz.de or visit:
<http://www.ecocity-programme.org/>

Cuba: Baseline study started in Havana

In Cuba the GTZ ecosan project has now launched the baseline studies in Havana. The studies are being implemented by the GTZ trainees Viviana Avendaño and Christiane Jung, in cooperation with the local partner EPROYIV Consulting and the Agricultural University of Norway NLH. The studies aim to investigate the acceptance and technical feasibility of ecosan in the urban environs of Havana. The results are to be presented at the end of March 2004 at a regional ecosan workshop in Havana.

!!! For more information, please contact: ecosan@gtz.de

Germany: Visiting various ecosan models in Germany, a short report

In October 2003, for a variety of reasons, the GTZ-ecosan team visited a number of projects in Germany in which ecosan has been translated into practice on a model basis:

- **Bielefeld, Waldquelle:** The eco-estate on the outskirts of Bielefeld with over 70 compost toilets in multi-storey buildings is the largest of its kind in Europe. Further information is available as a download:
<http://www.gtz.de/ecosan/download/Bielefeld-Rostock-WBerger.pdf>
- **Frankfurt: Kreditanstalt für Wiederaufbau (KfW)** has implemented a comprehensive energy and water-saving concept in its new buildings with vacuum sewerage, rain water use, as well as grey water treatment and use. Project reference under:
<http://www.roevac.de/html/german/news.htm>
- **Freiburg, BKF:** The biowaste (organic household wastes) of nearly half a million people in Freiburg and the surrounding areas is collected separately and processed by BKF to produce fertilisers. The biogas resulting from fermentation is used to produce electricity. The resulting fertiliser satisfies the quality requirements for garden soil. For further information, visit:
http://www.bkf-freiburg.de/pages_bkf/leistungen_technik.html
- **Freiburg, Vauban:** A comprehensive wastewater concept with vacuum sewerage, a biogas facility, grey water treatment, rain water seepage etc. has been installed in a modern residential and office building. Further information is available as a download
<http://www.gtz.de/ecosan/download/Freiburg-Vauban-APanesar.pdf>
- **Hanover, Öko-Technik-Park Hægewiesen:** A wide range of ecosan technologies is implemented within a contained space: vacuum sewerage, grey water treatment in reed beds and a biodisk system, source-separating toilets, waterless urinals, and rain water use. For further information, visit: <http://www.oeko-technik-park.de/>

Germany : New ecosan concept in Hans Huber AG buildings

An administrative building for 200 employees of Hans Huber AG in Berching, Bavaria, has been equipped with a recycling-oriented split-stream wastewater management system. The wastewater streams of yellow water, brown water and grey water are separated and then treated and reused specifically and hence more economically. With this project the company aims to demonstrate the feasibility of modern sanitation systems within its own buildings.

!!! Further information: <http://www.huber.de/desar/desar-zukunft.htm>

India: ecosan Workshop in Bangalore brought together ecosan initiatives throughout India

Representatives of ecosan initiatives, projects and institutions from India and other countries gathered in Bangalore for the first time on 15 to 18 June to report on their projects, exchange ideas and initiate new joint activities. Presentations were held on topics including South Pacific applications of ecosan, source separation as an option for Indian slum development, community sensitisation and a conceptual model of eco-engineering, design principles for decentralised wastewater treatment systems (dewats), closed-loop approach to sustainable wastewater management, ecosan compost and biological pest control, dewats in Auroville, ecosan projects in Kerala, wastewater in Karnataka.

The workshop was organized by ACTS, FEDINA, BORDA, GTZ-ecosan and seecon.

!!! Further information at:
<http://www.gtz.de/ecosan/english/publications-conferences.htm>

Nepal: First National Conference on Ecological Sanitation held

A successful conference, held on 3-4 November 2003 was organised by the Department for Water Supply and Sewerage DWSS, sponsored by WHO and supported by GTZ ecosan. The event brought together for the first time authorities, development agencies, NGOs and consultants who have been active in introducing ecosan in various places in Nepal. Initial results of ecosan applications were discussed and a final resolution was drafted, focusing on improved networking within Nepal and on priority issues to be dealt with in the near future. Various cooperation options for further pilot ecosan activities were identified by GTZ's ecosan team at this occasion.

!!! For further information contact Florian.Klingel@gtz.de

Project news

...general

China: Eco-town to be built: agreement signed between EcoSanRes and Dong Sheng City

The Erdos eco-town, a pilot project sponsored by the Dong Sheng District and the Swedish International Development Agency, will be built over the next three years with completion scheduled for 2007. The eco-town will be set up with modern urine-diverting toilets and separate grey water collection and treatment. Urine, sterilised faeces and organic kitchen wastes will be recycled for agricultural use. The eco-town will be a large pilot effort to further develop and standardise the various urban ecosan applications.

!!! Contact: <http://www.ecosanres.org/>

Nepal: Use of toilet waste in household-sized biogas plants

The Government of Nepal, the Dutch development organisation SNV and the German development bank KfW are promoting the use of biogas in Nepal within the Biogas Support Programme BSP. BSP supports household-sized plants fed with cattle manure and in an increasing number of cases with toilet waste. More than 70,000 units have been built since the beginning of the project in 1992, allowing human waste to be used as biogas for cooking purposes and as fertilizer in gardens. Remarkably, the very common religious and cultural aversions to the use of human waste have been overcome by the obvious advantages of the biogas plants and no longer represent an obstacle.

!!! For further information contact: Florian.Klingel@gtz.de

Nepal: ecosan pilot projects in Kathmandu Valley

More than 30 households in several suburban municipalities of Kathmandu have been equipped with two-chamber composting latrines during the past year. Urine is diverted and collected separately. Anal cleansing water is collected separately and treated in a small constructed wetland. The new latrines are quite well accepted by their owners and experience with the reuse of urine and composted faeces is encouraging. The projects have been set up by the Department of Water Supply and Sanitation (DWSS) and the NGOs WaterAid, ENPHO, Lumanti Support Group for Shelter (Lumanti), Development Network (DNET) and Nepal Water for Health (NEWAH).

!!! For further information contact: Florian.Klingel@gtz.de

!!! or visit : <http://enpho.org/ecosan.html>

Switzerland: Major project underway to study the large-scale application of urine separation in industrialised countries

The integrated research project NOVAQUATIS (2000-2005), led by EAWAG, investigates the possibilities of urine source separation for improved urban wastewater management. Although urine constitutes less than 1% of the wastewater volume, it contains most of the nutrients that end up in wastewater. Urine source separation would save treatment costs by eliminating nutrient removal at wastewater treatment plants. The project examines user acceptance of the NoMix technology, design and operational problems (e.g. clogging), storage and transport of urine, processing of urine for fertilizers, eco-toxicological effects and removal of micropollutants, and evaluation of urine separation technology. A separate project activity, involving research in Kunming, the capital of the Yunnan province in southwest China, looks at the feasibility of introducing urine separation technology in emerging countries.

Web address: <http://www.novaquatis.eawag.ch/>

Recent publications

...books to order

Four new IWA publications

P. Lens, L. Hulshoff Pol, P. Wilderer and T. Asano (ed.) (04/2002): "Water Recycling and Resource Recovery in Industry: Analysis, Technologies and Implementation", IWA Publishing, 677 pages, ISBN: 1843390051, IWA members / non members price: US\$/€ 102.00 / US\$/€ 136.00, English.

The publication provides a definitive and in-depth discussion of the current state-of-the-art tools and technologies enabling the industrial recycling and reuse of water and other resources. The book also presents in detail how these technologies can be implemented in order to maximize resource recycling in industrial practice, and to integrate water and resource recycling in ongoing industrial production processes. Special attention is given to non-process engineering aspects such as systems analysis, software tools, health, regulations, life-cycle analysis, economic impact and public participation. Case studies illustrate the huge potential of environmental technology to optimise resource utilisation in industry. The perfect reference work for academics, professionals and consultants dealing with industrial water resources recovery.

!!! info and order:

<http://www.iwapublishing.com/template.cfm?name=isbn1843390051>

TW. Hartley (07/2003): “Water Reuse: Understanding Public Perception and Participation”, WERF Report (Project 00-PUM-1) IWA Publishing, 172 pages, ISBN: 1843396696, IWA members / non members price: US\$/€ 124.00 / US\$/€ 165.00, English.

Non-potable and potable (principally in-direct potable) water reuse initiatives in the United States have faced increasing public opposition. Several high-profile initiatives have been halted after several years of planning and tremendous expenditures. To understand why the public holds the perceptions they do and what public participation options exist to address water reuse more constructively, a multidisciplinary analysis was undertaken by a team of social scientists, engineers, and water professionals. Through a comprehensive literature review, three in-depth case studies, and a 2-day interactive symposium this framework was developed for water professionals. Through application of the diagnostic tools and a commitment to the principles outlined in the publication, water professionals can build the public confidence and trust they need to engage with the public on difficult water reuse issues

!!! info and order:

<http://www.iwapublishing.com/template.cfm?name=isbn1843396696>

Gerald Miller and Elizabeth Quinlan (08/2003): “Impact of Surface Storage on Reclaimed Water: Seasonal and Long Term”

The objectives of this project were to develop (1) a better understanding of the effects of storage on reclaimed water quality, (2) a methodology to help understand/predict water quality changes during storage, and (3) effective management tools for minimizing water quality problems. The research team reviewed approximately 120 published articles, conducted a gray literature survey to analyze the impact of surface storage on reclaimed water quality. The team also evaluated federal guidelines for reclaimed water and developed a brief update on what individual states are doing.

<http://www.iwaponline.com/wio/2003/08/wio200308WF99PUM4.htm>

A.N. Angelakis, N.V. Paranychianakis, K.P. Tsagarakis: Water Recycling in the Mediterranean Region. Selected Papers of the IWA Regional Symposium on Water Recycling in the Mediterranean Region, held in Iraklio, Greece, 26-29 September 2002

<http://www.iwaponline.com/ws/00304/04/default.htm>

How can the international sanitation targets adopted at the World Summit on Sustainable Development in Johannesburg 2002 be achieved?

The 2003 WHO publication “**Looking back : looking ahead**” documents the history and experiences of WHO’s involvement in environmental sanitation. It explains the impact of action on a global scale to improve environmental sanitation and how WHO has spread the message that improved Sanitation means Better Health through advocacy, supporting research, and information dissemination. The booklet concludes with future challenges to reach the Millennium Development Goals.

WHO (2003). Looking back: looking ahead: five decades of challenges and achievements in environmental sanitation and health. Geneva, Switzerland, World Health Organization. 20 p., ISBN 9241590831

!!! Download [1,8 MB] free from

http://www.who.int/water_sanitation_health/hygiene/envsan/en/Lookingback.pdf

The publication “**Sanitation and the poor**” by Scott et. al (2003) identifies the key challenges in relation to achieving the international sanitation target adopted at the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002. It looks at the processes at the national level which are required to translate visions into action and the reasons why so many people do not have sanitation.

Requirements to provide access to sustainable sanitation services are included as well as the role of government, capacity development, and the key issues in relation to policy, strategic planning, programme development, implementation and monitoring.

!!! Download summary free from:

<http://www.lboro.ac.uk/well/resources/well-studies/summaries-htm/satp.htm>

Scott, R.; Cotton, A. and Govindan, B. (2003). Sanitation and the poor. - Loughborough, UK : WEDC, Loughborough University of Technology. - vi, 20 p., 22 boxes - 17 ref.

CSE presents Rainwater Harvesting Manual

The Indian Centre for Science and Environment (CSE) has produced a Water Harvesting Manual for urban areas, with case studies from Delhi. The manual includes a chapter on the urban water crisis, highlighting the growing urban water crisis along with plausible reasons and statistics.

The manual has been compiled with the objective of presenting the basics required for undertaking water harvesting. It is presented in a simple form so that it can be used even by ordinary householders, apart from architects, engineers and other professionals interested in implementing water harvesting. Compiled by a civil engineer, the manual aims to provide a practical guide to water harvesting systems along with illustrations and working drawings. Detailed descriptions of various methods and techniques for water harvesting have been given with diagrams.

The schemes of a few water harvesting systems designed by CSE in Delhi have been shown with working drawings so that establishments with similar conditions can take up water harvesting on the same lines. The manual presents methods suitable for residences, institutions and industries. The manual is by no means comprehensive, since there are no limits to innovation in techniques that can be applied. The manual is just a beginning; we plan to update it over time corresponding to the development and fine-tuning of existing methods of water harvesting. The price of the manual is US \$ 8 inclusive of all shipping charges.

!!! Available at: http://csestore.cse.org.in/store1.asp?sec_id=1&subsec_id=16

Recent publications

...CD to order

Information materials on micro-irrigation and value chains

The Swiss Agency for Development and Cooperation (SDC) has published a CD on “Market Creation on Smallholder Irrigation” and training manuals on “Affordable Micro-irrigation Technologies”. The CD contains information and documentation on diverse aspects of making low-cost smallholder irrigation technologies sustainably available to the many poor smallholders for whom they can make a difference. The training manuals cover technical, manufacturing and marketing aspects.

!!! To order the CD and for information, contact urs.heierli@deza.admin.ch

Recent publications

...in the web

Free access to scientific literature for students and researchers of developing countries includes water journals

A new initiative launched by the UN Food and Agriculture Organization (FAO), giving researchers and students in developing countries free or low-cost access to scientific literature on agriculture, includes several water-related journals. The AGORA (Access to Global Online Research in Agriculture) initiative provides access to more than 400 key journals in food, nutrition, agriculture and related biological, environmental and social sciences. Among them are: *Advances in Water Resources*; *Journal of Contaminant Hydrology*; and *Journal of Hydrology* (all from Elsevier), and *Water Resources Management*; and *Water, Air and Soil Pollution* (both from Kluwer). Conspicuously absent are journals from professional associations like the International Water Association (IWA). Although the IWA has just introduced reduced membership fees for low-income countries, the costs of its journal subscriptions and pay-per-view service remain prohibitive for most developing country institutes. Modelled after the HINARI initiative [1] launched by the World Health Organization (WHO) in 2002, AGORA is part of a trend promoting open access to scientific knowledge, not only for developing countries [2], but also worldwide [3, 4].

!!! **Web address:** AGORA - <http://www.aginternetwork.org/>

[1] HINARI – Health InterNetwork, <http://www.healthinternetwork.org/>

[2] An example is the Programme for the Enhancement of Research Information (PERI) of the International Network for the Availability of Scientific Publications (INASP), <http://www.inasp.info/peri/index.html>

[3] For an overview see the Open Directory page on Free Access Theory, http://dmoz.org/Society/Issues/Intellectual_Property/Free_Access_Theory/ see also the Directory of Open Access Journals, <http://www.doaj.org/>

[4] SciDev.Net, 3 Nov 2003, <http://www.scidev.net/editorials/index.cfm?fuseaction=readeditorials&itemid=94&language=1>

!!! Contact: Pierre Antonios, FAO Media Relations Officer, pierre.antonios@fao.org

FAO, 14 Oct 03; IWA Member Newsletter, Oct 2003; IRC Newsletter 43-44, 5 Nov 03

Private Participation in Infrastructure (PPI) Project Database

The PPI projects database tracks information on infrastructure projects with private investment in four sectors, including the water and sewerage sector, in low- and middle-income countries. It allows users to sort data by country, sector, and type of private participation and to download snapshot reports or custom query reports in Excel format.

!!! **Web address:** <http://rru.worldbank.org/PPI/>

Cap-net

International network for capacity building in integrated water resources management (IWRM) through the strengthening or establishment of a number of regional networks. The website provides an overview of capacity building networks and resource centres, it provides a listing of training courses on IWRM as well as downloadable material suitable for IWRM training, and other resource material such as guidelines and management instruments.

!!! **Web address:** <http://www.cap-net.org/>

Events

Germany: **Biogas & Bioenergy in Agriculture, IBBK** **27.-29. November 2003, Rot am See**

Organiser: International Competence Centre for Biogas and Bioenergy IBBK

Objectives: Information about the resource biogas and wastewater treatment in rural areas.

!!! **Info:** <http://www.biogas-zentrum.de/rotamsee03/index.html>

Germany: **The Farmer as Energy Producer and Resource Manager,** **6th EUROSOLAR Conference** **5. - 6. February 2004, Bonn**

Organiser: The European Association for Renewable Energies e.V.

!!! **Info:** http://www.eurosolar.org/new/de/termine_aktuell.html

India: **Delhi Sustainable Development Summit 2004, TERI, India** **4. - 7. February 2004, Delhi**

Organiser: TERI (The Energy and Resources Institute)

The 2004 edition of DSDS will feature contributions by enlightened leaders and thinkers of the world, representing a wide range of constituencies: government, business and industry, NGOs, scientific community, media, bilateral and multilateral community, and diplomatic corps. The speakers will be joined by over 400 delegates.

!!! **Info:** <http://www.teriin.org/dsds/2004/index.htm>

Australia: **6th Specialist Conference on Small Water & Wastewater Systems** **1st International Conference On-site Wastewater Treatment and Recycling** **11. - 13. February 2004, Murdoch**

Organiser: National Onsite Wastewater Recycling Association (NOWRA), USA, National Onsite Systems Interest Group (NOSSIG), Australia & Onsite NewZ, New Zealand, International Water Association & Australian Water Association

Objectives: The conference will focus on design, operation, maintenance and management of small water and wastewater treatment units. Innovations in the field, case studies on safe and reliable systems, removal of nutrients, water reuse, and methods for unattended operation will be discussed at the conference. Water supply and the treatment of wastewater for single houses or housing complexes will also be discussed. The conference will bring together scientists, engineers and professionals from government departments, private institutions, consultants, research, education and training institutions. 400 or more delegates from about 50 countries are expected to attend the conference.

Deadline for Discount Registration 28 Nov 2003

!!! **Info:** <http://www.wies.murdoch.edu.au/etc/pages/conf/water04.html>

Malaysia: **3rd ASIAWATER 2004** **30. March - 2. April 2004, Kuala Lumpur**

Over 8000 delegates and trade buyers will congregate at ASIAWATER 2004, Asia's No. 1 Water & Wastewater Event. Over 450 exhibitors from 28 countries, packed with the latest solutions and technologies for municipality water, sewerage and industrial wastewater management.

!!! **Info:** <http://www.asiawater.com>

Australia: ENVIRO 04 Convention & Exhibition
28. March - 1. April 2004, Sydney

Organiser: Australian Water Association (AWA), Waste Management Association of Australia (WMAA), Australian Business Council for Sustainable Energy (BCSE), Environment Business Australia (EBA), Clean Air Society of Australia & New Zealand (CASANZ)

Enviro 04 will incorporate six conferences dealing with:

- Sustainable industry — engaging the mainstream industry sectors of urban development, food and beverage supply and intensive agriculture
- Water — planning for the future
- Waste — finding your place in the brave new “no-waste” world
- Sustainable energy — markets and programs, technologies and suppliers, projects and case studies
- Business of the environment — do we grow the limits or limit the growth? who’s driving the marketplace?
- Advances in odour management — towards more liveable communities

Delegate registration: 31 January 2004

Oral presenters submit powerpoint slides: 28 February 2003

!!! Info: <http://www.enviroaust.net>

South Africa: Water Institute of Southern Africa
Biennial Conference & Exhibition
2. - 6. May 2004, Cape town

Organiser: Water Institute of Southern Africa

Water Institute of Southern Africa provides a forum for the exchange of information and views to improve water resource management in Southern Africa

!!! Info: <http://www.wisa.org.za/>

Spain: Water and Wastewater Europe 2004
25. - 27. May 2004, Barcelona

Organiser: Water & Wastewater International, PennWell Corporation

Water & Wastewater Europe 2004 will host experts from major players in the industry, including the public and private sectors, to discuss the serious challenges faced by many European countries - asset management; water resource management; water production and quality; desalination, water reclamation; operations and maintenance; privatisation, system rehabilitation; wastewater treatment and sludge management.

The high-level conference will feature more than 45 papers on desalination, water re-use, water quality, sludge treatment, privatisation, finance and legislation, Water & Wastewater Treatment & Reuse, Decentralised Wastewater Treatment & Water Reuse.

!!! Info: <http://wwe04.events.pennnet.com/>

Germany: World Renewable Energy Forum: Global Benefits and
Policies
30. - 31. May 2004, Bonn, Bundeskunsthalle

Organiser: The European Association for Renewable Energies e.V.

Event undertaken to prepare the International Conference for Renewable Energies, RENEWABLES 2004 (see below)

!!! Info: http://www.eurosolar.org/new/de/termine_aktuell.html

**Germany: RENEWABLES 2004 – International Conference
for Renewable Energies
1. –4. June 2004, Bonn**

Organiser: BMZ, BMU and GTZ

As announced by German Chancellor Gerhard Schroeder in Johannesburg at the World Summit on Sustainable Development in September 2002, the conference *renewables 2004* will lend further impetus to the momentum generated in Johannesburg leading to global expansion of renewable energies. The conference participants will be addressing the following themes in particular: financing (instruments) and market development; structuring of conducive policy frameworks; capacity building (education, research, networks, cooperation arrangements etc.) taking into account the country-specific conditions.

!!! Info: <http://www.renewables2004.de/>

**USA: World Water & Environmental Resources Congress 2004
"Critical Transitions in Water & Environmental Resources
Management: Understanding the Past - Shaping the Future!"
27. June – 01. July 2004, Salt Lake City**

Organiser: The Environmental Water & Resources Institute of the American Society of Civil Engineers

The event is designed for: engineers, biologists, policy makers, regulators, economists, ports managers, industrialists, manufacturers, researchers, consultants, and other parties interested in water and environmental resources; to boost understanding, collaboration, coordination, and cooperation with international practitioners ... AND ... Native American/Indigenous Peoples/First Nations, government officials, and non-government organization leaders.

!!! Info: <http://www.asce.org/conferences/ewri2004/>

**China: IFAT Fair China 2004,
29. June – 02. July 2004, Shanghai**

Organiser: MMG - Messe München GmbH; IMAG – Internationaler Messe- und Ausstellungsdienst GmbH (International Exhibition and Fair Service); SNIEC - Shanghai New International Expo Centre Co., Ltd.

The 2004 IFAT CHINA will present specific industry solutions and the latest technologies for implementing practical and economically feasible solutions as well as a wide range of highly qualified services in every area of environmental protection.

!!! Info: <http://www.ifat-china.com/>

**Bahrain: Water Middle East – International Exhibition and
Conferences for Water Technology
13 -15. September 2004**

Organiser: Bahrain Convention & Exhibition Bureau (BCEB) & Nürnberg Global Fairs GmbH

Water Middle East is an initiative by the Bahrain government to address all water issues and to provide a regular forum for international and regional water experts for the exchange of information on latest technological developments and new applications from around the world.

!!! Info: <http://www.watermiddleeast2003.com/>

Morocco: IWA World Water Congress and Exhibition
19.- 24. September 2004, Marrakech

Organiser: IWA - International Water Association

Over 3,000 people are expected to participate in the Congress and exhibition over five days. Leading researchers and practitioners will present the latest innovations in water management to Congress. The Congress themes cover most areas of the global water industry and there is a desire to create a programme which is relevant to both the developed and developing regions of the world.

Deadline for Papers: 30.11.03

!!! Info: www.iwa2004marrakech.com

Netherlands: Aquatech Amsterdam 2004 - International trade exhibition of water technology and water management
28. September – 01. October 2004, Amsterdam

Organiser: RAI Exhibitions (Netherlands) Co., Ltd

Conference & Trade Fair

Deadline Paper: 01. January 2004

!!! Info: http://www.aquatechtrade.com/events/events_detail.asp?eventid=45

Greece: WASTE MANAGEMENT 2004 - 2nd International Conference on Waste Management and the Environment
29. September – 01. October 2004, Rhodes

Organiser: Wessex Institute of Technology, UK

The conference will be of interest to environmental engineers, local authority representatives, waste disposal experts, research scientists in the area of waste management, civil engineers and chemical engineers.

!!! Info:

<http://www.wessex.ac.uk/conferences/2004/waste04/index.html> - CALL%20FOR%20PAPERS

First Global Water, Sanitation and Hygiene (WASH) Forum
Nov-Dec 2004, Dakar, Senegal [P O S T P O N E D]

Organiser: Water Supply and Sanitation Collaborative Council (WSSCC)

Objectives: (a) to draw lessons on how successful water, sanitation and hygiene programs, sector reforms and development partnerships are in leading to the eradication of poverty, and (b) to strengthen regional and national partnership initiatives aimed at attaining the goals of the World Summit on Sustainable Development. The Forum will be divided into three parts - Part I: Creating an enabling environment to fight poverty and promote sanitation and hygiene; Part II: Strengthening regional and national initiatives in water supply, sanitation and hygiene; and Part III: Meeting the goals of the World Summit on Sustainable Development.

Web address: http://www.wsscc.org/load.cfm?edit_id=332

Workshops

training courses

Online Course on "Ecological Sanitation - closing the nutrient loop" November 10-21, 2003

Organiser: Swiss Agency for Development and cooperation (SDC), The Network University, International Ecological Engineering Society

The first online course on "Ecological Sanitation – closing the nutrient loop" ended on 21 November 2003. More than 20 professionals from all over the world had access to the training material provided and participated in discussion forums and regular chat forums with resource persons. A second course is planned for March 2004.

<http://www.mynetworks.org/tcb/>

Links and tips

Links on GTZ ecosan homepage

You'll find an extensive list of interesting links on our homepage at:

<http://www.gtz.de/ecosan/english/links.htm>

We would greatly appreciate your calling our attention to additional links of interest:

ecosan@gtz.de

Homepage

Would you like to know more about GTZ's sectoral project ecosan or about the subject in general?

If so, visit our homepage (expansion and update in progress):

<http://www.gtz.de/ecosan>

Newsletter

If you would like to contact the administrators of this newsletter please send an e-mail to:

owner-ecosan@mailserv.gtz.de

Your proposals for contributions to the newsletter, and any inquiries and comments you may have are always welcome.

Contact

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Virus information

GTZ's IT centre would like to confirm that the original e-mails with which this newsletter is circulated are checked for viruses. However, during the past few months, an increasing number of viruses use false text elements to create the sender and subject line. This means newsletter subjects and sender names can (and have been) misused from other sources. Please protect yourself against viruses! Anti-virus protection is available from various sites, e.g.:

<http://www.antivir.de/download/download.htm> (German)

<http://www.hbedv.com/download/download.htm> (English)

Mailing list / Newsletter - user information

How to use the ecosan mailing list

You can interact with the Majordomo software of our mailing list server by e-mailing commands to:

majordomo@mailserv.gtz.de

Commands must be the only text in the e-mail, and not as part of the subject line! You can send several commands in one and the same e-mail message. Just be sure to start a new line for each command.

If you attach a signature block to the end of your e-mailed messages, the Majordomo software could perhaps mistake it for another command, so please enter the word "end" by itself in the line below the last command.

Useful mailing-list commands:

subscribe ecosan

Use this command to subscribe to the ecosan mailing list

subscribe ecosan your.name@xy.org

Use this command to receive the newsletter at an address other than that listed in your registration (e.g., if you send the e-mail from your workplace account, but wish to have the newsletter sent to your private e-mail address).

unsubscribe ecosan

Use this command to cancel your subscription.

unsubscribe ecosan your.name@xy.org

Use this command to de-register your receiving address, if this differs from the one from which you are currently using to send the request.

info ecosan

Use this command to request general introductory information about the ecosan mailing list.

index ecosan

Use this command to obtain a list of files sent so far via the mailing list.

get ecosan <filename>

Use this command to obtain a specific file sent via the mailing list (e.g., an archived newsletter).

help

Use this command to obtain information on how to use the Majordomo software.

end

Use this command to terminate a list of commands, e.g., especially if your mailer attaches an automatic signature.