



**ecosan – newsletter - no. 12 - 5/2004 - 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. 12!

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/n112dt.pdf>  
**English:** <http://www.gtz.de/ecosan/download/n112eng.pdf>  
**Spanish:** <http://www.gtz.de/ecosan/download/n112esp.pdf>  
**French:** <http://www.gtz.de/ecosan/download/n112fr.pdf>  
**Chinese:\*** <http://www.gtz.de/ecosan/download/n112cn.pdf> (available in July)

\* For organisational reasons, the Chinese version is published later than the others

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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- e-conference: Tackling poverty through multiple use water services
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**New upcoming events**

- |                   |   |
|-------------------|---|
| 31/05-4/06 /2004  | <b>„Energising Caribbean Sustainability“</b> , Trinidad           |
| 01-04 / 06 / 2004 | <b>2nd IWA Leading-Edge Conf.</b> , Prague, Czech Republik        |
| 07 / 06 / 2004    | <b>Perspectives for decentral water management</b> , Leipzig, FRG |
| 07-10 / 06 / 2004 | <b>Water Environment-membrane Technology</b> , Seoul, Korea       |
| 21-23 / 06 / 2004 | <b>34. BioCycle Jahreskonferenz</b> , Philadelphia, USA           |
| 29/6-02 / 7 /2004 | <b>IFAT Fair China 2004</b> , Shanghai, China                     |
| 14 / 07 / 2004    | <b>DeSa/R -Symposium / Huber Technology Preis</b> , Berching, FRG |
| 16-20 / 08 / 2004 | <b>Stockholm Water Week</b> , Stockholm, Sweden                   |
| 25-29 / 04 / 2005 | <b>IFAT 2005 / 13 European Water Symposium</b> , Munich, FRG      |
| 10-15 / 07 / 2005 | <b>1st IWA-ASPIRE</b> (Asia Pacific Regional Group), Singapore    |
| 08-11 / 11 / 2005 | <b>5th IWA Wastewater Reclamation and Reuse</b> , Jeju, Korea     |
| 16-22 / 03 / 2006 | <b>4t World Water Forum</b> , Mexico                              |

**Upcoming Events**  
**- reminder**

- |                   |   |
|-------------------|---|
| 30-31 / 05 / 2004 | <b>World Renewable Energy Forum</b> , Bonn                            |
| 01-04 / 06 / 2004 | <b>RENEWABLES 2004</b> , Bonn   |
| 27/6-01 / 7 /2004 | <b>World Water &amp; Environ. Res. Congress</b> , Salt Lake City, USA |
| 29/6-02 / 7 /2004 | <b>IFAT Fair China 2004</b> , Shanghai, China                         |
| 13-15 / 09 / 2004 | <b>Water Middle East</b> , Bahrain                                    |
| 19-24 / 09 / 2004 | <b>World Water Congress and Exhibition</b> , Marrakech, Morocco       |
| 28/9 - 1/10 /2004 | <b>Aquatech Amsterdam 2004</b> , Amsterdam, the Netherlands           |
| 29/9 - 1/10 /2004 | <b>Waste Management 2004</b> , Rhodes, Greece                         |
| 01-05 / 12 / 2004 | <b>Global WASH Forum</b> ; Dakar, Senegal                             |

**General information**

- contact and ecosan newsletter information
- Apologies for previous nonsense mails from the ecosan newsletter

**In-house news**

**Management and employees of the GTZ visit an ecosan - pilot project in Bavaria with regard to future implementation of an ecosan concept in the GTZ-headquarters in Eschborn (Germany)**

An ecological sanitation system will be implemented in the main building of the GTZ headquarters in Eschborn (Germany). Waterless urinals, urine separating toilets and a separate urine-conduit will be installed in the course of the renovation work of the building, which houses 600 employees. Wolfgang Schmitt of the management board and a delegation of GTZ-employees visited the company Huber in Bavaria, in order to increase their ability to judge the system's suitability for daily use and comfort of the planned toilets. In one of their administrative buildings, Huber operates a system that collects and treats yellow, brown and grey water separately.

After critical testing and inspection of the facilities, the GTZ-employees agreed that the waterless urinals and urine separating toilets installed in the Huber building were indeed comfortable and displayed next to no difference to normal toilets in their use. It can therefore be expected that the planned facilities at the GTZ-headquarters will readily be accepted by its employees, allowing the GTZ to demonstrate the feasibility and significance of ecosan-concepts within their own company.

!!! info: [christine.werner@gtz.de](mailto:christine.werner@gtz.de)

### **UNESCO / GTZ publication on ecosan concepts in education and advanced training to be presented at the World Water Forum 2006**

UNESCO and GTZ are collaborating on publishing a volume of the UNESCO IHP Series „Technical Documents in Hydrology“ (see NL 11). In a meeting, which was held in Eschborn between representatives of the UNESCO-IHP (International Hydrological Programme), UNESCO-IHE (Institute for Water Education) and GTZ, a first working concept was devised. It is intended to unitedly present the publication at the World Water Forum in Mexico (2006). In addition to the GTZ, the WSSCC (Water Supply and Sanitation Collaborative Council), the IWA (International Water Association), EcoSanRes (Sweden) and SANDEC (Switzerland) will also be contributing to the publication. Further contributions are welcome, as the text and background material are intended to provide a wide array of recommendations for education and international research on ecosan topics.

!!! contact: [christine.werner@gtz.de](mailto:christine.werner@gtz.de)

### **The final report on the GTZ-WSSCC ecosan/HCES workshop from the 3rd to the 5th of December in Eschborn, Germany is now available for download**

From the 3<sup>rd</sup> to the 5<sup>th</sup> of December, the GTZ and WSSCC jointly organised a workshop, in Eschborn near Frankfurt (Main) to discuss work currently being carried out on draft guidelines for the planning and implementation of ecosan projects. Along with a GTZ ecosan source book, the documents currently being developed by EcoSanRes, WSSCC and the WHO were also presented and discussed. The final report and some of the presentations from this workshop are now available for download on the GTZ-ecosan website.

!!! download from:

<http://www.gtz.de/ecosan/download/GTZ-WSSCC-WorkshopreportDec03.pdf>

!!! contact: [christine.werner@gtz.de](mailto:christine.werner@gtz.de)

### **Expert group discusses sustainability criteria for the evaluation of sanitation concepts and systems**

Which sanitation concept is most appropriate in which situation? How can end-of-pipe systems be justly compared with ecosan-systems? How can the impact on the environment and improved health of the population be measured and considered in such an evaluation. A group of experts from EcoSanRes, GTZ, Urban Water, Stockholm Water, CECIProc, WSSCC and others is currently developing such criteria and intends to present them at the Stockholm Water Week in August in order to encourage a discussion and obtain valuable feedback. (Please see the paper by Vleuten-Balkema in the “publication“ section of the newsletter for more details on the subject.)

!!! contact: [patrick.bracken@gtz.de](mailto:patrick.bracken@gtz.de)

### New members of the GTZ-ecosan project

We are pleased to welcome one new employee and three new interns to the GTZ-ecosan team:

- **Patrick Bracken** from Ireland, (civil engineer) joined our team as employee (50%) in March 2004. He previously worked for us as an intern in Germany and Burkina Faso, later as a consultant.
- **Anne Kleyböcker** from Germany, civil engineering student at the Technical University of Berlin. She will be working in our Eschborn office from May through July 2004.
- **Fernando G. C. de Mamari** from Brazil, geography student at the University of Tübingen as an exchange student from the National University Rio de Janeiro. He will be working in our Eschborn office from April through July 2004.
- **Thilo Panzerbieter** from Germany, civil engineering graduate from the Technical University of Berlin. He won his internship by entering his final thesis and winning second prize in the GTZ Contest „Between Lecture Hall and Project“. He will be working in our Eschborn office from March through May 2004.

### News from EcoSan Club

(Austria)

### EcoSan workshop planned for 16th of September 2004 in Austria

Ecosystem approaches and the closure of material flow cycles in practical applications (in Austria and Germany) are the focal point of a whole day of lectures, discussions and exchanges of experience. Lecturers include Markus Lechner, Martin Treberspurg, Martin Oldenburg, Helmut Deubner, Wolfgang Berger, Elke Müllegger, Martin Regelsberger and Fritz Öttl.

The workshop will take place at Kommunalkredit Public Consulting in Türkenstraße 9, 1090 Vienna. EcoSan Club will be assisted in organising the workshop by the Universität für Bodenkultur (Institut für Siedlungswasserbau am Department für Atmosphäre-Wasser-Umwelt and Department für Bautechnik und Naturgefahren, Ressourcenorientiertes Bauen) and Arbeitsgemeinschaft Erneuerbare Energie (AEE).

A registration is required. Reduced fees are offered to AEE and EcoSan Club members, as well as to students, community or military service draftees, jobless persons and person from developing countries. Registration deadline is the 8<sup>th</sup> of September 2004 (reduced fee deadline: 30<sup>th</sup> of June 2004).

!!! **contact und infos:** Elke Müllegger [elke.muellegger@boku.ac.at](mailto:elke.muellegger@boku.ac.at)

### Projects in Uganda

#### “Study on the reuse of treated wastewater and sanitised human excreta in Uganda”

By order of the Dreikönigsaktion (DKA); in cooperation with the „Ugandan National Agricultural Research Institute“ the quality of the products intended for reuse (treated wastewater, faeces and urine) should be examined using specific examples and the risks of different reuse strategies should be assessed.

#### “Training of Hospital and Health Centre Staff in Uganda in Water Supply & Sanitation“

By order of the DKA; continuation and expansion of the workshops of previous years (organisation of meetings between past participants, generation of manuals, local application of professional know-how). The first workshop will take place in Matany Hospital in June 2004.

### **“Kalungu Girls Secondary School“**

Promotion of sustainable development through integrated material flow management: Follow-up project to the EcoSan concept at Kalungu Girls Secondary School; Partial funding by the Amt der Niederösterreichischen Landesregierung confirmed. Current status – seeking additional financing

### **“Kapchorwa Resettlement Project“ [By order of Horizont 3000 (h3k)]**

As one element of this project, EcoSan Club is intended to assist the local project team in the installation of dry toilets. The awareness of the local population for settlement/hygiene issues should be strengthened through specific information and demonstration sessions. Interested families will be offered partial finances to enable the construction of dry toilets.

!!! **contact und infos:** Elke Müllegger [elke.muellegger@boku.ac.at](mailto:elke.muellegger@boku.ac.at)

## **News**

### **EU launches Water Facility**

On World Water Day 2004, the European Union (EU) agreed to set up a special Water Facility to promote access to clean water and sanitation for people in Africa, the Caribbean and the Pacific (ACP). The facility, originally proposed by EU President Prodi in 2003, could be allocated up to EUR 1 billion reserved from the 9th European Development Fund (EDF) in 2000. A first tranche of EUR 250 million will be allocated immediately and by Mar 2005 EU member states will decide on the release of the second tranche of EUR 250 million, and on the use of the remaining EUR 500 million from the reserve. The EU hopes that the Facility will have a catalytic effect in generating additional funds for water and sanitation in support of the EU Water Initiative [1] launched in Johannesburg in 2002. Earlier a group of non-governmental organisations (NGOs) [2] expressed their concern about the EU's emphasis on water privatisation. They urged the EU to "prioritise capacity building above infrastructure or promoting private investments".

!!! **For further information visit:** Both Ends - EU-ACP Water Facility,  
[http://www.bothends.org/project/project\\_info.php?id=13&scr=tp](http://www.bothends.org/project/project_info.php?id=13&scr=tp)

[1] Freshwater Action Network - EU Water Initiative,  
<http://www.freshwateraction.net/policy/eu.asp>

[2] WEED Online,  
<http://www2.weed-online.org/eu/texte/eu-water.htm>

(press releases, EU, 22 Mar 2004,  
[http://www.europa.eu.int/rapid/start/cgi/guesten.ksh?p\\_action.gettxt=gt&doc=IP/04/375%7C0%7CRAPID&lg=EN&display=IPS](http://www.europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/04/375%7C0%7CRAPID&lg=EN&display=IPS), 17 Mar 2004,  
<http://www.ipsnews.net/interna.asp?idnews=22892>)

Quoted from IRC - Source Weekly, No. 13-14, 8 April 2004

### **ecosan addressed at the twelfth session of the UN CSD in New York in April 2004**

Water and sanitation were among the focal topics at the twelfth session of the United Nations Commission of Sustainable Development (UNCSD).

ecological sanitation was addressed in two sessions on Thursday, 22 April and Friday, 23 April.

Paul Reiter (IWA Executive-Director), Bindeshwar Patakh (Founder of SULAB International) and Cees van der Guchte (Senior Programme Officer GPA, UNEP) were among those giving key note addresses to the Thursday morning session. Paul Reiter, highlighted the importance of developing full scale demonstration projects and educating communities about alternatives to high cost sanitation. Veerle Vandeweerd, UNEP GPA, said the sanitation target should not be restricted to “taps and toilets,” but should include protection of the environment and coastal areas. The “Earth Negotiations Bulletin” summarized the discussion as follows: “Many delegates addressed the need for appropriate low cost technologies, and several delegations shared their experiences at the community level. The **EU said there was a need to recognize treated wastewater as a resource and called for more effective and affordable eco-sanitation approaches**. FIJI called on the international community to support SIDS-appropriate technologies for treating wastewater. The IUCN called for national and subnational sanitation targets. INDIGENOUS PEOPLES said service delivery should remain in the public sector, and BUSINESS AND INDUSTRY stressed the need for locally-based sanitation enterprises that can support rural economies. **WOMEN called for eco-sanitation guidelines and said CSD-13 should address this issue.**” (read more under <http://www.iisd.ca/vol05/enb05205e.html> )

Under the Friday morning theme “Technologies - potential for and key obstacles to scaling up and marketing of sanitation” keynotes were given by Dr. Mi Hua (Rural Water and Sanitation Program Office, China) and Christine Werner (GTZ ecosan, Germany). The “Earth Negotiations Bulletin” summarized the presentations of Mi Hua and Christine Werner and the discussion as follows:

“... **Christine Werner**, GTZ, outlined principles, benefits and challenges of eco-sanitation, and underscored the need for implementing large-scale urban projects to showcase its benefits. **Mi Hua**, Rural Water and Sanitation Program Office, Guangxi, China, addressed China’s progress in promoting eco-sanitation, highlighting cultural acceptance, political commitment and low cost, as factors for success.

Discussion: Many delegates underscored the importance of hygiene education and awareness raising. **SWEDEN** noted that eco-sanitation is based on an ecosystems approach, and highlighted its role in promoting health, food security, environmental protection and income generation. **WOMEN** underscored the role of men, in addition to women, as agents of change in promoting sanitation. **SWITZERLAND** described eco-sanitation as a strategy, but said it was not limited to one specific technology. **FRANCE** said technologies should be simple and adapted to meet the requirements of local people. The **US** emphasized the role of small business and the importance of a market-based approach. **UGANDA** raised the need for structured subsidies in promoting the widespread use of eco-sanitation at the household level, while the **UK** cautioned using subsidies for household infrastructure.”

(read more under <http://www.iisd.ca/vol05/enb05206e.html> )

### **Currently 685.000 ecosan toilets installed in China**

The presentation of Mi Hua, reporting on the speed of implementing ecosan in China was very impressive. In 1997 there were only 70 ecosan toilets installed with support of the Swedish EcoSanRes programme. This rose to over 10.000 in 1998, 100.000 in 2002 and now stands at 685.000 toilets. Cultural acceptance, political commitment, technical feasibility, economic advantages, promotion and social marketing, and opportunities for income generation were given as reasons for this success.

Christine Werner stressed ecosan is a solution for both industrialised and developing countries, providing two examples from urban areas in Germany: In the headquarters of the KfW-banking group in Frankfurt vacuum-toilets are installed, with black-water and grey-water being collected separately with the latter being recycled, while at the GTZ-headquarters urine-separating toilets will be installed to recycle nutrients for fertilizer production.

Thanks are due to the Norwegian chair of the CSD 12 session, who brought the topic of ecosan on to the agenda and provoked an extremely interesting and positive ecosan discussion on UN-level for the first time.

The presentations of Mi Hua and Christine Werner can be downloaded from the GTZ-ecosan homepage.

!!! Download presentation of Dr. Mi Hua at CSD 12 from:

<http://www.gtz.de/ecosan/download/CSD12-ecosan-MiHua.pdf>

!!! Download speech and Presentation of Christine Werner at CSD 12 from:

<http://www.gtz.de/ecosan/download/CSD12-ecosan-werner.pdf>

!!! For more information on results from the twelfth session of UNCSD please

visit: <http://www.dep.no/md/engelsk/csd12/> or <http://www.un.org/esa/sustdev/>

### **Kofi Annan creates new Advisory Board on Water and Sanitation**

On World Water Day 2004, United Nations Secretary-General Kofi Annan announced the establishment of an Advisory Board on Water and Sanitation to support global action on these issues. Mr. Annan has asked the Board to raise awareness of water and sanitation issues, to help mobilise funds for water and sanitation projects, and to encourage new partnerships. While the international response to the world water predicament "contains much admirable effort, for the most part it has been inadequate", the Secretary-General notes.

Former Prime Minister **Ryutaro Hashimoto of Japan** has agreed to serve as Chairman of the Board. The other members are:

**Mahmoud Abou Zeid**, Egypt's Minister of Irrigation and Water;

**Michel Camdessus**, Special Representative of the President of the Republic of France for Africa;

**Juanita Castaño**, Former Vice-Minister of Foreign Affairs of Colombia;

**Uschi Eid**, Parliamentary Secretary of the Federal Ministry for Economic Cooperation and Development of Germany;

**Angel Gurria**, Former Minister of Finance of Mexico;

**Ronnie Kasrils**, Minister for Water Affairs and Forestry Department of Water Affairs and Forestry of South Africa;

**Olivia la O' Castillo**, President Philippine Pollution Prevention Roundtable;

**Eric Odada**, Director, Department of Geology, University of Nairobi;

**Gérard Payen**, Senior Executive-Vice-President, Suez;

**Judith Rees**, Deputy Director, London School of Economics and Political Science;

**Christine Todd Whitman**, Former Administrator US Environmental Protection Agency; and

**Peter Woicke**, Executive Vice President, International Finance Corporation. [1]

However several NGOs have expressed their concern regarding the high number of pro-privatisation members within the board (read more under [2]).

[1] UN Press Release [SG/A/870 ENV/DEV/756 OBV/412], 22 Mar 2004,

<http://www.un.org/News/Press/docs/2004/sga870.doc.htm>

[2] UN Press Briefing 30 April 2004

<http://www.un.org/News/briefings/docs/2004/WaterPressCfc.doc.htm>

### Preparations begin in South Africa for the next international ecosan symposium

**Durban, South Africa**, is the planned location for the next international ecosan symposium from the **23<sup>rd</sup> to the 27<sup>th</sup> of May, 2005**. The International Conference Centre has been booked for the conference. The preparations are being coordinated by Aussie Austin of the CSIR (Council for Scientific and Industrial Research; <http://www.csir.co.za>). Organisation of the event is progressing well, however sponsors are urgently sought to provide support.

!!! Further information: [laustin@csir.co.za](mailto:laustin@csir.co.za)

### Job Vacancies

#### Switzerland: Professor for Environmental and Resource Economics at the University of St. Gallen and EAWAG

At the University of St. Gallen – College for Economic, Legal and Social Sciences – and EAWAG (Swiss Federal Institute for Water Supply, Wastewater Treatment and the Protection of Water Bodies) a vacancy exists for a

##### Professor for Environmental and Resource Economics

Applicants should have a great interest in the socio-economic aspects of water (integrated water management, organisation of water supply and wastewater management companies, technical change in the water sector, the promotion of sustainable water use, etc.), excellent international research experience, didactic competence, proven abilities in at least two different research areas either through academic or practical experience, preferably in fields such as resource economics, town and regional economics, financial sciences and industrial economics. Additional requirements include: Readiness to promote scientific excellence and work in a large team, as well as to establish and lead an outstanding social sciences department whose work is integrated into the research of EAWAG. Applicants should have a post-doctoral lecturers qualification (germ. Habilitation) or equivalent qualification. Detailed information can be found under <http://www.eawag.ch/socio-economics>.

Complete applications should be sent to Dr. Peter Gomez, Rektor der Universität St. Gallen, Dufourstrasse 50, CH-9000 St. Gallen.

!!! Further information on this position can be found under:  
[http://www.eawag.ch/services/personal/d\\_jobs.html](http://www.eawag.ch/services/personal/d_jobs.html) and  
<http://www.eawag.ch/socio-economics>

#### Morocco (Marrakesch): Protection of drinking water resources / sustainable water management

**the project:** supporting the development of the Moroccan water sector. The project is comprised of a regional and a national component.

**your tasks:** you will assist in developing the workscope, organisational structure and development of the "Agence de Bassin Hydraulique Tensift", the water management association, regional body and new regional institution with political-participatory character for regulation, administration and development of water management in the catchment area of the Tensift, an economically vital river system. You will also be expected to consult the new organisation in respect to their tasks and plan reform processes of commercialisation and privatisation in the regional water sector, with technical assistance.



**your qualifications:** As an engineer or economist, specialised in water management, you have several years of prior experience in organising water management associations, with organisation development in the water sector, integrated water management and water sector politics, as well as the organisation involved in water supply and waste water treatment. Your experience enables you to provide proactive consulting services in the formation of local bodies. You are sensitive enough to assume a role as mediator, if necessary. Excellent knowledge of the French language is expected.

**utilization time:** June 2004 until May 2007

**!!! for further information please contact :** Mrs. Ramp [anne.ramp@gtz.de](mailto:anne.ramp@gtz.de)

### **Jordan (Amman): Tendering for waste-water reuse project**

GTZ-international services are involved in tendering for a project in Amman, Jordan. The overall objective of the project is to enhance the ability of the core parties to quantify problems related to waste-water re-use and identify measures to be taken to ameliorate the situation. GTZ is looking for a team-leader for the project.

**!!! For further information please visit**

<http://www.gtz.de/international-services/jobs-and-tenders>

[→ current vacancies → Service sector „Environment and natural resources“]

### **News from the projects ...**

**... German cooperationen**

### **Botswana: The proceedings from the ecosan workshop in September 2003 in Gaborone are now available for download**

The proceedings of an Awareness Raising Workshop on Ecological Sanitation Gaborone, Botswana September 2003 are now available for download. The proceedings include contributions from Botswana, South Africa and Germany. They range from Aussie Austins "Health and safety aspects of EcoSan and excreta handling", to "Community based sanitation" by C. Keller, or "Experience in piloting composting toilets in Botswana" by G. T. M. Moanakwena.

**!!! Download from:**

<http://www.gtz.de/ecosan/download/Botswana-workshop03.pdf>

**!!! For further information contact:** [cathrine.wirbelauer@iucn.org](mailto:cathrine.wirbelauer@iucn.org)

### **Botswana: "Experiencing ecological sanitation in Paje - internship report from the community based natural resource management (CBNRM) Missing Link project"**

"The ecosan approach, tested by the IUCN-PTB (International Union for the Conservation of Nature - Permaculture Trust) "Missing Link" project (funded by GTZ) in Botswana consists of small-scale integrated natural resources management activities around the households and within the communities. The concept includes a so-called single-vault, urine-diverting, dry toilet combined with the collection of kitchen organics and organics from traditional/animal refuse along with the construction of small-scale rainwater harvesting systems and recycling of non-organic waste - all to achieve the zero-emission town. The greywater component is for time being rather applied on garden and tree irrigation, but will be a larger part of the peri-urban ecosan concept, which is under development by different organisations in/for Botswana. The project aimed to start small so to allow for proper piloting and at a later stage (once considered a viable option) expand to a national level."

Available now is an internship report of field activities undertaken by Tobias Hanke, a trainee from the supra-regional GTZ-ecosan-Project in the period between September and December 2003 in Paje (Central District), Botswana.

The specific tasks undertaken during his internship can be divided into four main areas:

- Practical tasks with community members
- Workshops and meetings
- Training of builders and on-the-job capacity-building of project staff (CLO), and
- Research on the potentials of the agricultural use of by-products from the toilets.

In the summary of the report it is stated, that "in the trials the fertilizing potential of the by-products, especially of urine, could be demonstrated. When the results from the trials became significant, people who had been storing urine started to use it in other parts of the garden. Inspired by the results, others started to collect urine. This shows in an impressive way that with time and learning-by-seeing a change of attitude is possible."

**!!! Download report from:**

<http://www.gtz.de/ecosan/download/Botswana-traineereport03.pdf>

**!!! Contact:** Cathrine Wirbelauer: [cathrine.wirbelauer@iucn.org](mailto:cathrine.wirbelauer@iucn.org)  
or Tobias Hanke: [t.hanke@web.de](mailto:t.hanke@web.de)

### **Ecuador: Overview of ecosan projects in Ecuador**

Authors Jenny Aragundy and Xavier Zapata offer a good overview of ecosan projects in Ecuador. The report contains data, documented experience and photographs from a series of projects, underlining the potential of ecosan systems for the country.

The report, only currently available in Spanish, can be downloaded from our web-site.

**!!! Download:**

<http://www.gtz.de/ecosan/download/ecosan-ecuador-jAragundy.pdf>

**!!! Contact:** [heinz-peter.mang@gtz.de](mailto:heinz-peter.mang@gtz.de) or J. Aragundi [jaragundi@hotmail.com](mailto:jaragundy@hotmail.com)

### **Germany: Pilot plant for blackwater treatment at TU Hamburg Harburg**

Researchers have connected toilets at the Hamburg University of Technology to a pilot treatment plant to investigate a combination of two technologies. The technologies are vermicomposting and the Rottebehälter technology, where worms have been applied to fresh brownwater sludge. The research project has been initiated under the supervision of Prof. Ralf Otterpohl, director of the institute of municipal and industrial wastewater management at the Technical University Hamburg Harburg.

First results have been extremely encouraging with the worms converting the material into a moist earth-like material over a 3 month period without any additives. If the period is extended by another one or two months the system produces excellent humus. The combination of these two technologies has a great potential for application in rural and peri-urban areas in both high and low income countries. Worms can also improve the performance of dry earth toilets and help in the hygienisation process.

Moataz Shalabi and Ralf Otterpohl would be extremely interested to hear from anyone who would be interested to collaborate in this research.

An article on this research can be downloaded under  
<http://www.tu-harburg.de/susan/downloads/vermi.pdf>

**!!! Contact:** Moataz Shalabi [moataz.shalabi@tuhh.de](mailto:moataz.shalabi@tuhh.de)

**!!! For further information visit:**

<http://www.ecosan.org/> [→ Publications for download → Shalabi, M. et. al.]

### **Cuba: Greywater use for garden irrigation**

A baseline study carried out in the framework of a masters thesis Martina Hammer for the GTZ shows that the use of greywater to irrigate gardens in Cuba is a move in the right direction to closing nutrient and water loops. The work, supervised by Professors P.D. Jenssen, T. A. Breland (both Norges Landbrukshogskule, Norwegen) and K. Köller (Univ. Hohenheim, BRD) illustrates that part of the required organic fertiliser needs can be provided in this way, although the use of organic matter from blackwater should be strived for. Further results from the GTZ baseline study in Cuba are expected in late summer 2004.

Martina Hammer's work "Future Potentials for Food Production & Wastewater Treatment in Havana's Urban Vegetable Production " can be downloaded from the GTZ-ecosan web-site.

!!! Download: <http://www.gtz.de/ecosan/download/Hammer-MaThesis.pdf>

!!! Contact: [heinz-peter.mang@gtz.de](mailto:heinz-peter.mang@gtz.de)

### **Namibia: News from the baseline study in Mariental and Gibeon**

Supported by the GTZ ecosan team and in the framework of the GTZ "Service delivery promotion" project an international team have been collecting data on water supply, wastewater and solid waste management and agriculture in the towns of Mariental and Gibeon since February 2004. The municipal authorities, and formal and informal institutions are actively involved in the data collection and the resulting concept development of a closed loop oriented, socially, environmentally and economically appropriate sanitation concept. As a prelude to this work in February one day working meetings in each of the towns were held. As a result, detailed stakeholders analyses were produced as were working plans for the GTZ ecosan trainees Ines Lacayo (Nicaragua) and Kristian Franzius (Germany) along with Dino Kohima (Namibia) were. A meeting on the 13.02.2004 in Windhoek with representatives of the Namibian government illustrated the great need for sustainable concepts for water supply and wastewater management.

In April the household interviews were completed and from the beginning of the May the team have been working on developing the best possible solution for the sanitary problems in these two very different towns.

!!! Download:

<http://www.gtz.de/ecosan/download/Namibia-news04-africaans.pdf>

!!! Further information: [heinz-peter.mang@gtz.de](mailto:heinz-peter.mang@gtz.de)

**News from the projects ...**

**... other organisations**

### **India: Co-composting project using waste paper and material from urine diversion toilets in Rajendra Nagar Slum in Bangalore**

In Bangalore, a project aiming to improve the conditions of slum dwellers and Dalits and to stop the pollution of both soil and water, has been in place since 2001. The collaboration between seecon GmbH in Wolhusen, Switzerland, and ACTS ministries in Bangalore, India, has as its objective to develop the implantation of toilets and sanitary arrangements in slum areas and to transform the attitudes of the population dwelling in them.

The ideas behind this project are manifold: to improve the living conditions in the slums and to reduce the risk of spreading diseases by establishing public toilet; to develop and facilitate the commercial production of compost and fertiliser by separately collecting urine and faeces; to generate an income for the development of the slum by selling fertiliser and charging for the use of the toilet; to give slum-dwellers self-responsibility by instructing them how to operate the toilet themselves; and finally to change the attitudes of people and encouraging them to consider human faeces as a valuable resource.

Daily, more than 800 visitors currently use the urine diversion installation in the Rajendra Nagar settlement. The material from the toilet is collected and co-composted with waste paper before being used on the campus of the Rayasandra campus of the Academy for Higher Education ACTS .

Available now is a diploma thesis prepared within the framework of this project by Alexandra Baumeyer and titled "New Toilets for Indian Slums - Nutrients Mass Balance of a Co-Composting Plant in Bangalore, India". The work discusses problems of water content and the transport of faecal matter, presents the results of hygienisation analyses, and documents the composting process and the effect of the compost as a soil improver.

!!! **Download:**

<http://www.gtz.de/ecosan/downloads/Baumeyer2003-Bangalore-thesis.pdf>

!!! **Contact:** Johannes Heeb [johannes.heeb@seecon.ch](mailto:johannes.heeb@seecon.ch)

## Technology and Markets

### 9 Million tons of organic waste are currently recycled into compost in Europe - ecosan systems can profit from these experiences

On the web-site of the Knoten Weimar [<http://www.bionet.net>], Josef Barth provides an overview on the treatment of organic waste in Europe with a view to its technical and market development. Many of the points raised are equally valid for ecosan systems. In the summary of the article Barth writes "Investigations in Europe indicate that quality and marketing of the end product are the most crucial composting issues. Both producers and users are of the opinion that sustainable recycling of organic wastes demands clear regulations with regard to what is suitable to be recycled and how it should be managed and controlled. Around 15% of the estimated total recoverable potential of 60 million Mg of organic waste is presently treated biologically in Europe. The re-use has to meet environmental and market requirements. Therefore, the trend in Europe goes definitely towards source separation of the organic residues from gardens and households. Quality requirements for composts regarding heavy metals, organic pollutants and hygiene allow no other alternative. There is no longer a market for mixed-waste compost. The introduction of source separation and composting must go hand in hand with the introduction of a quality assurance system for compost plants. Assuring compost quality entails more than just fulfilling a number of heavy metal limits. ... " [<http://www.bionet.net/de/waste/index.htm>]

Whoever would like to get in touch with those active in composting can do so over the internet [ <http://www.compostnetwork.info/> ]. Another possibility is to attend the 5<sup>th</sup> Workshop on the mechanical-biological treatment of organic waste with a special focus on eastern Europe on the 7<sup>th</sup> and 8<sup>th</sup> of October 2004 in Budapest, organised in cooperation with the Hungarian composting association (see <http://www.compostnetwork.info/> ).

!!! **Contact:** [josef.barth@bionet.net](mailto:josef.barth@bionet.net)

## Publications

... Books

### Multi Criteria Analysis for Sustainable Wastewater Treatment

Annelies van der Vleuten-Balkema has completed her dissertation on the innovative topic "**Sustainable Wastewater Treatment - developing a methodology and selecting promising systems.**"

In the summary the author writes "(...) To gain insight into the sustainability of wastewater treatment systems we developed a sustainability assessment, which is a combination of existing tools, such as life cycle assessment, cost-benefit analysis, and social inventories. The main features that make the combination more than a sum of the parts are: the broad scope, the set of sustainability indicators, the process design oriented approach for modelling through the use of a superstructure, and selection of optimal structures by multi-objective integer optimisation. We implemented this sustainability assessment in a model-based decision support tool for the selection of sustainable domestic water systems. (...)" The thesis can be downloaded as full digital version (size: 36 MB !).

!!! Download at: <http://alexandria.tue.nl/extra2/200312971.pdf> (36 MB !!!)

## Publications

... on the web

### 2003 UN World Water Development Report now available as download

The UN World Water Development Report "Water for People, Water for Life" published in march 2003 is now available for free download

The World Water Development Report (WWDR) is a periodic, comprehensive review giving an authoritative picture of the state of the world's freshwater resources, and aiming to provide decision-makers with the tools for sustainable use of our water.

Coordinated by the World Water Assessment Programme, the Report is the result of the collaboration of twenty-three UN agencies and convention secretariats and lays the foundations for regular, system-wide monitoring and reporting by the UN, together with development of standardized methodologies and data.

The first edition of this report, Water for People, Water for Life, was launched on World Water Day (March 22nd) at the Third World Water Forum in Kyoto, Japan.

!!! Download from: <http://www.unesco.org/water/wwap/wwdr/index.shtml>

### UNEP/WHO/UN-HABITAT - Guidelines on municipal waste water management

This is a practical guide for decision-makers and professionals on how to plan, design, and finance appropriate and environmentally sound municipal wastewater discharge systems. The preparation of this report was commissioned by the UNEP Coordination Office of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) to the UNESCO-IHE Institute for Water Education, The Netherlands. The Governments of the Netherlands and Belgium contributed to the funding of this activity

!!! Download from:

[http://www.gpa.unep.org/documents/wastewater/Guidelines\\_Municipal\\_Wastewater\\_Mgnt\\_version3.pdf](http://www.gpa.unep.org/documents/wastewater/Guidelines_Municipal_Wastewater_Mgnt_version3.pdf)

### Norwegian 'think piece' on ecological sanitation gives an excellent introduction to ecosan

The Norwegian Ministry of the Environment has commissioned a 'think piece' on ecological sanitation as part of the preparations for 12th Session of the UN Commission on Sustainable Development (CSD). However, the think piece on ecosan might as well be used as an excellent introductory text to ecological sanitation in general.

It is structured into the five topics: 1. Ecological Sanitation; 2. Advantages and Challenges of Ecological Sanitation; 3. Ecological Sanitation in Practice; 4. Culture, Gender and Poverty; and 5. Health aspects.

**Ecological Sanitation** - by Petter Jensen, J. Heeb, E. Huba-Mang, K. Gnanakan, W. Warner, K. Refsgaard, T.A. Stenström and K. W. Alsén. -18 p.

!!! Download at:

<http://www.dep.no/md/engelsk/csd12/topics/022021-990432/>

### Other CSD 12 'think pieces' with relevance for water and sanitation

The above mentioned ecosan "think piece" does not stand alone: the Norwegian Ministry of the Environment has commissioned a whole series of 'think pieces' by experts on water, sanitation and human settlements as part of their preparations for 12th Session of the UN Commission on Sustainable Development (CSD).

It is the objective of all these 'think pieces' to stimulate the debate on key areas related to the three themes in focus of CSD12. Other "think pieces" with relevance for water and sanitation include:

**Water and Poverty in a Macro-economic Context** - by Stein Hansen and Ramesh Bhatia

**Community-Managed Sanitation Services for the Urban Poor in Asia, Africa and Latin America: Constraints to Scaling-up of 'Islands of Success'** - by Ramesh Bhatia.

**The Challenge of Financing Sanitation** - by Meera Metha and Andres Knapp

**Whatever happened to Sanitation? - Practical Steps to Achieving a Core Development Goal** - by Barbara Evans.

**Monitoring and Evaluation Activities for the MDGs** - prepared by Environmental Resources Management (ERM)

**Who Lacks Service? A Typology of Communities Lacking Access to Water Supply and Sanitation** - by Jenna Davis

!!! Download at:

<http://www.dep.no/md/engelsk/csd12/topics/022021-990432/>

### Workshops und Training courses

### e-conference: Tackling poverty through multiple use water services 17 May - 25 June 2004

**Organiser:** Thematic Group on Productive Uses of Water at the Household Level (<http://www.irc.nl/prodwat>).

This e-conference on tackling poverty through multiple use water services will be facilitated by the Thematic Group on productive uses of water at the household level, and will take place in parallel in English (hosted by IRC) and Spanish (by CINARA). It will provide a platform for individuals and organizations to share their experiences in all aspects (positive and negative) of multiple uses of water.

!!! Info: <http://www.irc.nl/index.php/content/view/full/8902>

**e-conference: Capacity building for effective decentralised wastewater management**

**1st - 26th June, 2004**

**Organizer:** GHK International in collaboration with Water and Engineering Development Centre (WEDC) at Loughborough University, and "Streams of Knowledge" - a global coalition of resource centres in the water and sanitation sector.

This e-conference forms part of a research project funded by the UK Government Department for International Development (DFID) and is one of a series, part funded by the Water Supply and Sanitation Collaborative Council (WSSCC).

**Background:** Improvements in wastewater management are essential, particularly for the livelihoods of poor urban and peri-urban communities. Conventional centralised approaches for infrastructure and service provision for wastewater management have generally been unresponsive to local needs and resources, demands for wastewater reuse, and in general do not consider the wide range of technologies and management options that are available.

The wider research project which forms the basis of this e-conference aims to develop and promote effective strategies for managing wastewater and faecal sludge's, with a particular emphasis on the needs of poor urban and peri-urban communities. The research focuses specifically on the management arrangements as well as the physical components of infrastructure for wastewater collection and treatment.

The **overall aim** of the e-conference is to build on existing knowledge and learn from current practices and experience, considering decentralisation from a number of perspectives including:

1. Physical decentralisation of infrastructure or services;
2. Devolution of decision-making and planning processes; and
3. Decentralisation of institutional arrangements for management of wastewater systems.

**Structure** of the conference and **themes** for discussion are:

Week 1	Review of existing situation	31st May - 6th June
Week 2	Exploration of management options	7th - 13th June
Week 3	Sustainability, replication and capacity building	14th - 20th June
Week 4	Developing an effective policy framework	21st - 25th June

!!! For further information about the project visit: <http://www.ghkint.com>  
or contact: Andrew Preston [prestona@ghkint.com](mailto:prestona@ghkint.com)

!!! For further information about how to subscribe to the conference visit:  
<http://www.lboro.ac.uk/wedc>  
or contact: Frank Odhiambo [F.O.Odhiambo@lboro.ac.uk](mailto:F.O.Odhiambo@lboro.ac.uk)

**Sweden: Systems for biological treatment and recycling of biodegradable waste and wastewater**

**1<sup>st</sup> November – 19<sup>th</sup> December 2004, Uppsala**

**Organizer:** Swedish University of Agricultural Sciences in Uppsala, Sweden. 10 credit (15 ECTS credits) post-graduate course.

Hakan Jönsson, one of the best known Swedish ecosan - researchers and - practitioners is offering an interesting training course.

The main focus of this course is on treatment and handling systems enabling safe, environmentally friendly and resource efficient recycling of plant nutrients and organic matter in organic household waste (urine, faeces, kitchen waste etc.) back to cultivation

of crops. The emphasis of the course is source separating sanitation systems (Ecosan systems), composting and anaerobic digestion, but conventional handling and treatment systems (waterborne sanitation systems and processes, active sludge processes, biobeds, chemical precipitation, pond systems; incineration and land-filling of solid organic waste) are also covered. The course treats processes and systems relevant both in developed and developing countries, and the emphasis will be on the latter.

The course ends with a two week individual project on producing initial plans for an Ecosan system and evaluating its effects on society and environment. The intention is that this projects is done back home during the weeks following the course weeks in Sweden.

The course is aimed at linking advanced theoretical understanding with practical experiences. It is well suited both for graduate students and experienced professionals.

The course is given in English using PBL (problem based learning). It is given at the Swedish University of Agricultural Sciences in Uppsala, 80 km north of Stockholm. It starts Nov 1st and the lectures in Sweden ends Dec 19th and during January the project is due.

**Registration deadline Oct 1st 2004**

**!!! Contact:** [Hakan.Jonsson@lt.slu.se](mailto:Hakan.Jonsson@lt.slu.se)

**!!! Info:** <http://slukurs.slu.se/forskarutbildning/Kurs.asp?Kurskod=PNS0001>

**upcoming events**  
... new

**Trinidad: Second Caribbean Environmental Forum and Exhibition (CEF-2) "Energising Caribbean Sustainability"**  
**31. May - 4. June 2004, Port of Spain**

**Organizer:** Caribbean Environmental Health Institute (CEHI) and the Government of Trinidad & Tobago

Technology, Cleaner Production and Eco-Efficiency, Environmental Quality and Monitoring, Waste Management, Water Resources Management, and Occupational Safety and Health.

Also organized are field trips and social activities to ensure that you have an enjoyable time while you are in Trinidad.

**!!! For further information visit:** <http://www.cehi.org.lc/cef2/index.htm>

**Czech Republic: 2nd IWA Leading-Edge Conference on Water and Wastewater Treatment Technologies LET2004**  
**1. - 4. June 2004, Prague**

**Organizer:** IWA (International Water Association)

The 2nd IWA Leading-Edge Conference on Water and Wastewater Treatment Technologies - LET2004

One of IWA's goals is to promote the exchange of ideas and knowledge about breakthroughs and developments amongst its global membership. The Leading-Edge Conference series is a means to achieve this goal. By gathering together leading researchers and practitioners, IWA can help to facilitate the adoption of new, innovative approaches across the water and wastewater treatment spectrum. (Michael Rouse, President, IWA)



Interesting for ecosan practitioners shall be the session on Thursday 3 June "Rethinking the Wastewater Treatment Concept." Among others Anton Peter-Fröhlich (Germany) will talk on a "Demonstration Project for Separate Discharge and Treatment of Urine, Faeces and Greywater - Cost Comparison with the Conventional Wastewater System" and M. Maurer (Switzerland) will talk on "Rethinking the Approaches for Sustainable Wastewater Treatment."

!!! For further information visit: <http://www.let2004.com/>

**Germany: Perspectives for decentralised water management**  
**7<sup>th</sup> June 2004, Leipzig**

**Organiser:** Verein Bildungs- und Demonstrationszentrum für dezentrale Abwasserbehandlung - BDZ e.V.

The meeting in Leipzig will address the perspectives for decentralised concepts in both national and international contexts. Opportunities will be discussed along with the potential risks. Approaches to find solutions will be developed in plenum.

Among the presenters is Christine Werner, GTZ - ecosan project, who will give a presentation entitled: "ecosan - Kreislaufwirtschaft und Stoffstromorientierung im Abwassermanagement" ("ecosan - closed loop and split flows in wastewater management").

!!! Contact : [info@bdz-abwasser.de](mailto:info@bdz-abwasser.de) and Info: <http://www.bdz-abwasser.de/>

**Korea: Water Environment-membrane Technology [WEMT 2004]**  
**7. - 10. June 2004, Seoul**

**Organizer:** International Water Association (IWA) and Seoul National University

After more than 30 years of commercial application, membrane technologies have flourished and become vital as evidenced by their wide range of applications in the management of water environment.

This conference aims to bring together international experts in the field of membrane technology to share their experiences and knowledge. It will provide an excellent environment for promoting the latest ideas and effective practices, with the opportunity to review quickly the most recent developments in membrane technology for water environment.

Examples of interesting key note titles are "Membrane technology - the key to water reuse" by Fane, A.G. (Australia) and "Nutrients removal in MBR for municipal waste water treatment" by Kraume, Matthias (Germany).

!!! For further information visit: <http://www.wemt2004.org/>

**USA: 34<sup>th</sup> BioCycle Annual Conference -**  
**Global Benefits and Policies**  
**21<sup>st</sup> - 23<sup>rd</sup> June 2004, Philadelphia**

**Organiser:** US-Magazine "BioCycle", jgpress.

The US based magazine "BioCycle" will be holding their 34<sup>th</sup> Conference for Composting and Renewable Energy from the 21<sup>st</sup> to the 23<sup>rd</sup> June 2004 in Philadelphia, Pennsylvania. Main themes: latest success in avoiding smell; market development for organic compost products; „green energy“ from biomass; trends in anaerobic digestion.

!!! Info: <http://www.jgpress.com/conferences1/conferences1.html>

**China: IFAT Fair China 2004**  
**29. Juni - 2. Juli 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 presents specific solutions from industry along with the latest technology for the introduction and implementation of practice relevant and economically feasible solutions across a broad range of application.

In the accompanying programme on Wednesday 30.06, "ecosan and water reuse" will be an important theme. The chairman of this event, due to run from 13h00 to 14h30, is Mr. Gao Tingyao (Director, National Engineering Research Centre for Urban Pollution Control, Shanghai, China).

Some of the presentation themes planned for this session are:

- "Waste Water Treatment Plants in China – Comparison of Experiences in China and Germany" by Dipl.- Ing. Reinhard Meierjohann, (KfW Development Bank, Frankfurt, Germany);
- "Potential and Concepts for Water Reuse in Selected Areas of China" by Prof. Dr. Peter Cornel, Technical University Darmstadt, Germany. This presentation addresses topics such as situation and challenge; selected areas (Beijing, Shanghai, Hubei, Hebei; climate and water resources; waste water treatment; potential and concepts for water reuse".
- "ECOSAN – New Approaches in Waste Water Management" by Dr. Josef Tränkle, GTZ (German Technical Co-operation). This presentation refers to "Changzhou and various alternative approaches in waste water management in China that focus on resource conservation and closed loop methods for nutrients and water".

The accompanying programme is organised by Deutschen Abwasser Technischen Vereinigung (ATV-DVWK), den Dachverband für Wasser und Gas (DVWG), der EWA and CARCE.

Dr. J. Tränkle and I. Jurga from the GTZ-ecosan team will be available at the GTZ information desk during the IFAT.

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

**Germany: DeSa/R - Symposium and presentation  
of the Huber Technology Prize 2003 / 2004**  
**14. July 2004, Berching**

**Organiser:** Huber-Technology.

"DeSa/R – a means of achieving the Millennium Development Goals for sanitation" is the sub-title of this conference, which will also include the presentation of the „Huber Technology Prize“.

Numerous prominent speakers will be coming to Berching (Bavaria) for this conference. Ulf Ehlin (Stockholm Int. Water Institute) leads the morning session and Peter Wilderer (TU München) the afternoon session. Among the presenters are Paul Reiter (Executive Director IWA), Tove Larsen (EAWAG), Prof. Rudolf (Univ. Witten-Herdecke), Prof. Goen Ho (Murdoch Univ.) und Christine Werner of GTZ ecosan project. The title of Christine Werners presentation is "Ecological sanitation, respecting the needs of developing and emerging countries."

The conference will be held in both German and English (with simultaneous translation).

No conference fees are charged.

!!! For further information contact: [info@huber.de](mailto:info@huber.de)

**Sweden: Stockholm 2004 World Water Week**  
**16. - 20. August 2004, Stockholm**

**Organiser:** Stockholm International Water Institute (SIWI)

**Location:** Stockholm City Conference Centre

With the title "**Drainage Basin Management – Regional Approaches for Food and Urban Security**" the 2004 World Water Week will be held from the 16<sup>th</sup> to the 20<sup>th</sup> of August in Stockholm. Ecosan will be discussed in two main sessions of this important international event.

On the **day before the official opening, on Sunday the 15<sup>th</sup> August** of the Water Week a one day seminar "**The Challenge of Providing Sustainable Sanitation**" has been organised by the Stockholm Environment Institute (SEI), the Swedish International Development Cooperation Agency (Sida), the International Water Association (IWA) und das Water and Sanitation Programme-Africa (WSP-Africa).

This day-long seminar will present a dialogue on viable, alternative sanitation solutions and address the need for affordable sanitation services in the light of growing competition for urban water.

Alternative sanitary systems will be presented and discussed relative to sustainability criteria that a system should satisfy in order to help meet the Millennium Development Goals (MDG) and "Sanitation for All" objectives.

The seminar will review the global sanitation situation and different types of sanitation systems; relate alternative sanitation, including "Ecosan" to urban security, food production and water management; introduce new entrepreneurial and business models for the service sector; and present the options "new sanitation" provides including solid waste and source separation approaches.

2 workshops can also be recommended with respect to ecosan:

On **Tuesday 17.8.2004** the symposium workshop No 1 "**Systems for Sustainable Urban Water Services**" takes place, which has been co-organised by the Commonwealth Scientific & Industrial Research Organisation (CSIRO), International Water Association (IWA), United Nations Environment Programme – International Environment Technology Centre (UNEP-IETC) and the WSP-Africa.

The workshop will identify strategies for system solutions as an integrated component in urban planning and development. The workshop will specifically focus on criteria and analytical tools for sustainability, for water and environmental security and urban stability. Case studies from cities and towns of various sizes, and from both developed and developing countries, in dry and wet areas will highlight best practices with respect to relevant local and national experiences and capacities.

On **Wednesday 18.8.2004** workshop No 3 addresses the issue of "**Reuse of water and nutrients in urban and rural contexts**" Am **Mittwoch, dem 18. August** findet der Symposiums Workshop Nr. 3 Co-organisers are the German Gesellschaft für Technische Zusammenarbeit (GTZ), the International Water Association (IWA), the Stockholm Environment Institute (SEI) and the United Nations Environment Programme – International Environment Technology Centre (UNEP-IETC). In the programme this is described as follows:

"To achieve sustainable development, re-use of water and recycling of nutrients is essential. Similarly, a recycling of nutrients is important in efforts aimed at environmental protection and resource conservation. Reclamation, re-use and recycling of resources such as phosphorus will enable an increase in resource utilisation without a corresponding increase in the pressure on limited and vulnerable natural resources. An effective way to reduce the pressure on limited water and nutrients is to recycle the nutrients in wastewater from urban and rural areas and use it in the agriculture sector. This must be done in a way that safeguards the quality of agricultural products with

reference to health standards. To facilitate a safe reuse of waste water and its nutrient contents, relevant laws and regulations must be enacted and enforced. This includes effective and binding demands on industries, hospitals, petrol stations and other polluting activities, which are connected to wastewater treatment plants. It is also very important that all relevant stakeholders are aware of the advantages and demands of water reuse and that they are engaged in the planning.

The workshop will focus on the rational basis for waste water/sewage management and where and when reuse is technically possible and economically feasible. Different types of technical solutions will be scrutinised with reference to the required legislation and institutional arrangements. Financial and socio-economic aspects will be evaluated. It is important to identify what demands can be levied on different types of industries, for instance, the food producing sector in terms of health protection.”

Once again **the presentation of the “Stockholm Water Prize”** will be a highlight of the symposium. Along with the events directly related to ecosan, many others will also be extremely relevant – for example the seminar “Water management in mega-cities“. Which analyses the characteristics of different massive cities, or the side event for a planned IWRM.Net (Integrated Water Resource Management Net) through which EU research funds will be coordinated through an **ERA Net**.

**!!! The complete programme can be downloaded at:**

<http://www.siwi.org/waterweek/download.html>

**!!! Reduced fees can be had if registration is completed before 20<sup>th</sup> June 2004**

**!!! Contact :** [sympos@siwi.org](mailto:sympos@siwi.org)

**!!! Info:** <http://www.siwi.org/>

**Germany: 13th European Water Symposium IFAT 2005  
25. - 29. April 2005, München**

**Organizer:** European Water Association and ATV-DVWK

The international conference on the occasion of IFAT 2005 will take place on 25-29 April 2005 in Munich, Germany. It will include presentations on the following topics: Monitoring Plant Performance, Membrane Technology, Public-Private Partnership, Sewer Rehabilitation. The Call for Papers closed on 30 April 2004.

**!!! For further information visit:** <http://www.ifat.de/>

**Singapore: 1st IWA-ASPIRE Conference & Exhibition  
(Asia Pacific Regional Group)  
10. - 15. July 2005, Singapore**

**Organizer:** Environmental Engineering Society Singapore and the Public Utilities Board, Singapore.

#### **Call for Papers**

The 2005 IWA-ASPIRE Regional Conference and Exhibition in Singapore, is the combination of the Asian Waterqual Conference and the IWA-ASPAC Regional Conference & Exhibition.

The IWA-ASPIRE Conference and Exhibition forms a forum for academics, scientists, engineers, and practitioners worldwide especially from Asia to address, discuss, and share their experiences in pursuit of the latest developments in the innovative technologies and managerial techniques governing water resource conservation, reclamation, and sustainability as well as water pollution control. Knowledge and comprehension of such matters will lead to the advancement of ecological and environmental conservation for our future generations.

**Manuscripts in any of the following subject areas are invited.** Papers on scientific, technical, practical, strategic, economic, regulatory, finance and human resource topics of water quality management are welcome:

New Vision and Strategies - Financing Water/Sewerage Projects - Human Resource Development Training, Benchmarking and Skill Competency - Diffuse (non-point) source pollution - Sewage and industrial wastewater collection, treatment, and management - Drinking water quality, treatment, and distribution - Innovative treatment technology - Instrumentation and control - Environmental remediation - Environmental sanitation and health related issues - Sludge management and disposal - Water reclamation, reuse and recycle

Prospective authors are invited to submit abstract(s) of not more than 500 words electronically via the conference website at: <http://www.aspire2005.org/>

**Important Deadlines:**

Abstracts submission - 15 Jul 2004  
Notification of acceptance - 15 Nov 2004  
Full paper submission - 15 Mar 2005

!!! For further information visit: <http://www.aspire2005.org/>

**Korea: 5th IWA Int. Symposium on Wastewater Reclamation and Reuse for Sustainability (WRRS)  
8<sup>th</sup> – 11<sup>th</sup> November 2005, Jeju**

**Organizer:** Water Reuse Technology Centre (WRTC), Kwangju Inst. of Science & Technology (K-JIST), IWA

This conference aims to bring together international experts in the field of water reclamation and sustainable reuse (...). Conference Themes include:

Sustainable Technologies for Water Reuse - Advancement in wastewater Reclamation - Agricultural, Industrial and Indirect Portable Reuse - Biotechnology for Water reuse - Microbiology, Health and Risk Assessment - (...).

Important dates to remember:

- 2-page abstracts submission: February 28, 2005  
- Notification of authors regarding acceptance: April 30, 2005  
- Receipt of full manuscript: June 30, 2005

**!!! Contact:**

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!!! For further information visit: [http://env1.gist.ac.kr/~wr21/en\\_index.html](http://env1.gist.ac.kr/~wr21/en_index.html)

**Mexico: 4th World Water Forum  
16. - 22. March 2006, Mexico**

**Organizer:** World Water Council

The 4th World Water Forum will take place on March 16-22, 2006, in Mexico, following the decision that was made by the Board of Governors of the Council in September 2003

The objective of the 4th Forum is to come up with concrete measures and indicators that will create the enabling environment to boost progress on the achievement of the Millennium Development Goals.

Over the years, the Forum has led the movement from the World Water Vision, a product of the 2nd Forum, to the establishment of concrete actions and commitments derived from the 3rd Forum. Now, the challenge is to establish mechanisms of cooperation and coordination to transform a global vision into local concrete actions that integrate local knowledge.

!!! Info: [http://www.worldwatercouncil.org/forum\\_4.shtml](http://www.worldwatercouncil.org/forum_4.shtml)

**upcoming events**  
... reminder

**Germany: World Renewable Energy Forum:  
Global Benefits and Policies**  
**30<sup>th</sup> – 31<sup>st</sup> 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](http://www.eurosolar.org/new/de/termine_aktuell.html)

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

**Hosts:** Water & Wastewater International

**Organisers:** Federal Ministry for Cooperation and Development (BMZ), Federal Ministry for the Environment (BMU) and the Gesellschaft für Technische Zusammenarbeit (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.

**ecosan will be a topic at the “Day of Biomass Side Event” on 3.6.2004.**

Heinz Peter Mang will give a short presentation titled “How to make sanitation and waste treatment sustainable and ecological?” in the morning session 1 “Science”

!!! Only registered members of the conference can participate in the one day side event.

The side event will take place at the Wissenschaftszentrum Bonn, Ahrstr. 45, D53175 Bonn, <http://www.wzbonn.de/>.

!!! For further information on the “Day of Biomass side event” visit:  
[http://www.renewables2004.de/en/programme/one\\_day\\_side\\_events3.asp](http://www.renewables2004.de/en/programme/one_day_side_events3.asp)

!!! For general information visit: <http://www.renewables2004.de/>

**USA:** **World Water & Environmental Resources Congress 2004**  
**"Critical Transitions in Water & Environmental Resources**  
**Management:**  
**Understanding the Past - Shaping the Future!"**  
**27th June – 1st 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/>

**Bahrain:** **Water Middle East – International Exhibition**  
**and Conferences for Water Technology**  
**13th –15th 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:** **World Water Congress and Exhibition**  
**19th- 24th 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.

!!! Info: <http://www.iwa2004marrakech.com/>

**The Netherlands: Aquatech Amsterdam 2004 - International trade**  
**exhibition of water technology and water management**  
**28th September – 1st October 2004, Amsterdam**

**Organiser:** RAI Exhibitions (Netherlands) Co., Ltd  
Conference & Trade Fair

!!! Info: [http://www.aquatechtrade.com/events/events\\_detail.asp?eventid=45](http://www.aquatechtrade.com/events/events_detail.asp?eventid=45)

**Greece: WASTE MANAGEMENT 2004 - 2nd International Conference on Waste Management and the Environment  
29th September – 1st 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

**Senegal: First Global Water, Sanitation and Hygiene (WASH) Forum  
1st – 5th Dec. 2004, Dakar, Senegal**

**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](http://www.wsscc.org/load.cfm?edit_id=332)

**Links and Tips**

**Links auf der GTZ ecosan-Homepage**

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

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

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

[ecosan@gtz.de](mailto:ecosan@gtz.de)

**Apologies for previous nonsense mails from the ecosan newsletter**

Over the past few days you have received two e-mails addressed to all subscribers of the ecosan newsletter containing the message "For security reasons attached file is password protected. The password is ..." or "Password..." followed by a number. These mails were not intentionally sent by us and we would like to apologise for any inconvenience they may have caused you.

Both mails were a result of a virus that sent an e-mail to our system activating our newsletter-majordomo, causing it in turn to send out a series of mails to the addresses in our address book. Luckily, the virus itself was not transmitted with the mails you received, as our system disabled this before accepting the original mail. We are now taking steps to ensure that this will not be repeated.



However another problem may occur, that sometimes viruses steal our addresses from other computers and use them to distribute themselves. We know, that this problem is common for e-mail addresses that have been saved by many people, but unfortunately, we cannot prevent this from happening.

We would therefore recommend that you ensure all your mails are scanned by an up-to-date virus scanner and that you do not open any obscure attachments.

Our newsletter is sent simply as text, with no attachments of any sort, instead, documents are always offered as download-links from our website. If you do receive a mail from us with an attachment claiming to be related to the newsletter, do not open the attachment.

Once again we are sorry for any trouble the mails may have caused you, and would like to thank any of our readers who took the time to contact us concerning them.

## 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](mailto: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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**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](mailto: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.