



International
Water Association

In co-operation with:



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2011-2012

Co-organisers:



BORDA



Consortium for
DEWATS
Dissemination
Society



Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH



INVITATION TO REGISTER AND
ADVANCED PROGRAMME

Conference on Decentralised Wastewater Management in Asia

Meeting urban sanitation challenges at scale



20 – 22 November 2012 • Nagpur, India

Supporting Organisations:



Free Hanseatic
City of Bremen



German Federal Ministry
of Economic Cooperation
and Development



सत्यमेव जयते



www.iwadewats-nagpur.com

Conference Outline

The world is facing immense challenges arising from rapid population growth and intense urbanisation. In Asia, about 45% of the population now live in towns and cities, and by 2030 it is estimated that this will reach 55%. Population densities in Asian cities are much higher than other parts of the world, and the predominance of poverty in urban slums is ubiquitous throughout the region.

Against this backdrop, the lack of wastewater management continues to be a huge challenge. Conventional centralised approaches to wastewater management have largely failed to address the wastewater disposal needs of poor communities due to high capital investment, poor operation and maintenance or low connection rates. As a result, many urban dwellers remain unserved with basic sanitation and the vast majority of wastewater and septage is discharged without any form of treatment into rivers and water bodies, seriously polluting water resources and causing a diversity of economic impacts.



As a result of this crisis, demand for affordable but effective wastewater management systems is increasing and there is a growing body of science and practice which demonstrates the opportunities for implementing wastewater management systems based on a decentralised approach. The decentralised approach – referred to as DEWATS – has been demonstrated to be a cost-effective and efficient way of wastewater treatment to improve environmental health conditions as well as providing opportunities for re-use and resource recovery. Decentralised approaches also offer increased opportunities for local stakeholder participation in planning and decision-making.

The objective of this Conference is to build capacity and awareness of DEWATS as a viable sanitation option for countries in Asia to enhance sanitation coverage and service delivery in the urban environment and provide a cost-effective means for treating wastewater. It will focus on (a) sustainable technical options, (b) management options and the roles of various stakeholders, and (c) enabling institutional and regulatory frameworks for the effective implementation and scaling-up of decentralised systems.



Conference Programme

20 November (Tuesday)			21 November (Wednesday)			22 November (Thursday)	
			Technological Developments II 0900 – 1045	Policies, Standards & Regulations II 0900 - 1045	Stakeholder Engagement II 0900 – 1045	Planning I 0900 – 1045	Design & Construction II 0900 – 1045
			Tea-Break 1045 – 1100			Tea-Break 1045 – 1100	
			Technological Developments III 1100 – 1245	Management I 1100 - 1245	Stakeholder Engagement III 1100 – 1245	Planning II 1100 – 1245	Ensuring Sustainability 1100 – 1245
			Lunch 1245 – 1345			Lunch 1245 – 1400	
Conference Opening & Keynotes 1330 – 1445			Financing 1345 - 1530	Management II 1345 – 1530	Design & Construction I 1345 – 1530	Closing Plenary & Conference Synthesis 1400 – 1600	
Tea-Break 1445 – 1545			Tea-Break 1530 – 1545			Tea-Break 1600 – 1630	
Technological Developments I 1545 - 1730	Policies, Standards & Regulations I 1545 - 1730	Stakeholder Engagement I 1545 - 1730	Field Visits 1545 - 1900				
Welcome Dinner 1900 – 2100							

Keynote Speakers



Keynote Speaker 1 - Susmita Sinha

Director - Knowledge Management, Training and R&D
Consortium for DEWATS Dissemination (CDD) Society

Title of Presentation - Coverage, delivery and development – urban sanitation challenges

Susmita Sinha is the current Director of Training, Knowledge Management and Research & Development with CDD Society. An Environmental Management professional with over 14 years of work experience, Susmita specializes in urban environmental management, especially in decentralized sanitation services, and has extensive experience in applied research activities specifically related to environmental monitoring and analysis as well as developing and conducting training programs.



Keynote Speaker 2 - Chris Buckley

University of KwaZulu-Natal
Durban, South Africa

Title of Presentation - Decentralised Wastewater Systems – technology and trends

Chris Buckley is a Research Professor in the School of Chemical Engineering and Head of the Pollution Research Group (PRG) at the University of KwaZulu-Natal in Durban, South Africa. He has been involved in research in water and effluent management at the University since 1976. This includes research on VIP latrines, urine diversion toilets, grey water, innovative water supply, decentralised wastewater treatment, water conservation and water demand management, permitting industrial effluent discharges and water reclamation and reuse. Chris and his team have participated in a number of Bill and Melinda Gates Foundation projects related to sanitation for the poor. He also coordinates the R&D efforts for BORDA.

Keynote Speaker 3

A representative from Ministry of Urban Development, Government of India

Advanced Programme - Oral Presentations

Technological Developments

Sewage sludge treatment and utilisation: Securing the operation of wastewater treatment plants
Thomas Koenig, China

Potential of natural technologies for decentralized wastewater management in India
Markus Starkl, Austria

Investigations on developing countries adapted packing materials for fixed bed bioreactors
Gernot Kayser, Germany

DEWATS system with upgrading components for high quality community wastewater treatment
Zifu Li, China

Long term performance of a low-energy domestic grey water treatment device for urban and rural houses
Himanshu Khuntia, India

Decentralized integrated wastewater and solid waste management
Rajendra Shrestha, Nepal

Nutrient removal of wastewater by using algae culture - test results and its applicability in Nepal
Anjana Koju, Nepal

Utilizing cocopeat as a biofiltration medium for on-site and decentralized wastewater treatment
David Robbins, USA

An experimental DEWATS plant: Practical experiences and influence of increased hydraulic loadings on a full-scale BORDA DEWATS treating domestic wastewater
Sudhir Pillay, South Africa

Hygienisation of sewage sludge from DEWATS by a low cost in-vessel composting system
Enrique Aymerich, Spain

Solid free sewer - an approach to provide appropriate sewer services in urban areas of emerging and developing countries
Andreas Schmidt, Germany

The development of a gas displacement method to determine the bioactivity of anaerobic sludge in DEWATS plants
Bjoern Pietrushka, South Africa

Phosphorus - a limited resource that could be made limitless
Jan-olof Drangert, Sweden

Stakeholder Engagement

Best options for sustainable sanitation: An integrated approach of water and sanitation in the school premises
Sanchita Roy, India

Developing evidence based behaviour change communication for improving faecal sludge management in Bhutan
Tashi Yetsho, Bhutan

Effects of social behaviour on the wastewater generation in an urban settlement: a case study of Beedi workers colony
Rohini J, India

Ensuring sustainability of DEWATS - a community-based O&M strategy in Nala, Nepal
Mingma Sherpa, Nepal

School Based Sanitation (SBS) in Cambodia - Multi-Stakeholder involvement in decision making processes for sustainable decentralized school WASH infrastructure
Alex Campbell, Cambodia

Analysis of consumer behavior for decentralized wastewater treatment system
Stanzin Tsephel, India

Key role of AKSANSI as the community-based organizations association for sustainability of CBS performance in Indonesia
Prasetyastuti Puspawardoyo, Indonesia

Capacity building for DEWATS in Southeast Asia
Maren Heuvels, Indonesia

How to ensure effective stakeholder involvement in the implementation of onsite sanitation systems in peri-urban slums? A case study From Mongolia
Katja Sigel, Germany

Advanced Programme - Oral Presentations

Policies, Standards & Regulations

Process of developing urban wastewater policy for Afghanistan catering to decentralized wastewater management needs
Hussain Etemadi, Afghanistan

Urban Selection: Priority setting for sanitation development in Regency
Josef Wibowo, Indonesia

Legislative framework for decentralised wastewater treatment in Mexico, indication of the enabling and hindering factors
Amanda Rodriguez Valdes, Mexico

Mainstreaming decentralized sanitation systems into city level regulatory frameworks
Sowmya Haran, India

Nation-wide assessment of decentralised sanitation initiatives: Enabling environment and ways towards wide-scale replication scenarios
Philippe Reymond, Switzerland

Potential for DEWATS applications In Sri Lanka
Joerg Haucke, Germany

Planning

Development of a planning tool for comprehensive and innovative planning multi-dimensional problems in urban sanitation
Dirk Walther, India

Utilisation of a web-based application for informed-decision making in sanitation sector: A case study in City of Cimahi
Ida Bagus Hendra Gupta, Indonesia

City Sanitation Plan: A tool for locating decentralized wastewater treatment systems in small and medium towns in India
Pradip Nandi, India

Water management to achieve sustainability in satellite townships In India
Dhawal Patil, India

Assessment of sustainable sanitation options in peri-urban areas of Kathmandu Valley
Prajwal Shrestha, Nepal

Kulithalai shows the way to the state for City Sanitation Plan
T.Vijay Anand, India

Management

Policies for sanitation service provision in slums in India
Rajeev Kher, India

The limits of community management: Some findings from Indonesia's experience of implementing community-managed DEWATS at scale
Kathy Eales, South Africa

Innovative public-private management scheme for decentralized sanitation: Small-scale sewer system and wastewater treatment plant in Hin Heup small town
Sengaloum Khammoungkhoun, Lao PDR

Community managed DEWATS a response for better sanitation in a peri-urban settlement
Nitesh Anand, India

Simplified sewer system (SSS) DEWATS - Solace in Kadampadi tsunami permanent settlement
T.Vijay Anand, India

CBS-DEWATS Project
Crisanto Palabay, Philippines

Addressing Urban Wastewater Issues - Third Generation Management
HC Sharatchandra, India

Design & Construction

Introducing DEWATS in Afghanistan
Alex Miller, Afghanistan

Standardisation of design and maintenance of DEWATS plants in India
Ramesh Sakthivel Subbaian, India

Prefabricated biogas reactor based system for community wastewater and organic waste treatment in developing regions of Asia
Zifu Li, China

Pre-fabrication of DEWATS in Indonesia with RFP
Prawisti Ekasanti, Indonesia

Speeding up dissemination of decentralized wastewater treatment systems, DEWATS, through pre-fabrication
Stefan Reuter, Germany

Designing decentralised wastewater treatment for communal facilities: Preliminary results of the water demand from eThekweni's Community Ablution Blocks
Pieter Crous, South Africa

Financing

Improving financial analysis in sanitation planning: lessons from Dhaka
Georges Mikhael, United Kingdom

Determinants of DEWATS cost- A case study from India
Stanzin Tsephel, India

Service levels, costs and their recovery of urban water and sanitation services: A study of select urban areas in Andhra Pradesh
Ramakrishna Nallathiga, India

Ensuring Sustainability

Decentralised wastewater management initiatives of WaterAid in Bangladesh
Babul Bala, Bangladesh

Monitoring results of 323 DEWATS in Indonesia
Nicolas Reynaud, Germany

Highlighting the significance of promotional measures and effective O&M in sustaining DEWATS - Study from Nepal
Luna Kansakar, Nepal

Please note that presentations listed are subjected to change. For latest list of presentations, please refer to the conference website www.iwadewats-nagpur.com

Poster Presentations

For listing of poster presentations, please refer to the conference website www.iwadewats-nagpur.com

Organising Committee

- Ryan Yuen International Water Association
- Gladys Ng International Water Association
- Jonathan Parkinson International Water Association
- Pedro Kraemer Bremen Overseas Research and Development Association
- Maren Heuvels Bremen Overseas Research and Development Association
- Susmita Sinha Consortium for DEWATS Dissemination Society
- Satchit Bhandarkar Consortium for DEWATS Dissemination Society
- Pawan Labhasetwar National Environmental Engineering Research Institute
- Dayanand Panse Indian Water Works Association
- Narendra Bangre Indian Water Works Association
- Dirk Walther Indo-German Environment Programme-ASEM Sustainable Urban Habitat, GIZ

Programme Committee

- Jonathan Parkinson (Chair) International Water Association
- Chris Buckley University of KwaZulu-Natal
- Kapil Gupta Indian Institute of Technology Bombay
- Thammarat Kootatep Asian Institute of Technology
- Pedro Kraemer Bremen Overseas Research and Development Association
- Pawan Labhasetwar National Environmental Engineering Research Institute
- Christoph Luethi Sandec, Eawag
- Dayanand Panse Indian Water Works Association
- Mujibur Rahman Department of Civil Engineering, Bangladesh University of Engineering and Technology
- Vivek Raman World Bank Water & Sanitation Program
- Susmita Sinha Consortium for DEWATS Dissemination Society
- Markus Starkl Competence Centre for Decision Aid in Environmental Management, BOKU University
- Bhushan Tuladhar Water for Asian Cities Programme UN-HABITAT
- Stefan Reuter Bremen Overseas Research and Development Association
- Dirk Walther Indo-German Environment Programme-ASEM Sustainable Urban Habitat, GIZ
- Ryan Yuen International Water Association
- Christian Zurbrugg Sandec, Eawag

Field Visits (21 November 2012, 15:45 to 19:00)

- Field visits are included in the registration fees
- Sign up for the visits will be done onsite

DEWATS For Vocational Training Centre, Lonara, Nagpur, Maharashtra

The Vocational Training Centre at Lonara, Nagpur, comprises of a training centre and hostels, accommodating around 110 persons. In order to overcome the water shortage problem, and also to demonstrate the treatment and reuse of domestic wastewater, a DEWATS unit was implemented by the Indian Institute of Youth Welfare, Nagpur. This project commissioned in 2004, was funded by BORDA. CDD Society provided technical support in design and implementation. S.N Architects supported the implementation process. The DEWATS unit has a treatment capacity of 20m³ per day. This unit treats domestic wastewater from the campus (canteen, toilets, bathrooms and wash areas). The construction of this unit took 8 months. The unit comprises of 8 primary treatment modules – settlers for each block of the campus. The outflow from the settlers is connected to a baffle reactor which acts as the secondary treatment facility. Tertiary treatment takes place in a planted gravel filter. The treated effluent is collected in a tank from which it can be reused for gardening and horticulture and the sludge is used as compost. The effluent quality assessment indicates an overall organic load reduction of 80%.



DEWATS At Public Toilet In Kalmeshwar, Nagpur

Kalmeshwar Municipal Council in its efforts to provide better sanitation facilities and a cleaner environment agreed to implement a DEWATS unit for a public toilet complex at a vegetable market in Kalmeshwar. The Toilet complex is having facilities of urinal, bathroom and toilets both for men and women. This toilet complex is maintained by a private contractor on pay and use basis.

This project, commissioned in 2011, was funded by Kalmeshwar Municipal Council. The treatment capacity of the DEWATS unit is 12 m³ per day. Operation and maintenance of the toilet complex as well as the DEWATS unit is carried out by the Municipal Council. The DEWATS unit comprises of a settler, anaerobic baffle reactor, anaerobic filter and a planted gravel filter. The area around the toilet complex has been developed as a garden. The treated wastewater is reused for gardening, pathway washing and flushing in toilets.



DEWATS For Mahajan Nagar Community

Mahajan Nagar is a slum situated along Sonegaon Nallah on Beltarodi road in Nagpur. There are around 166 households, each planned in plot sizes of 450 and 600 sq ft. Around 50 % of the houses in the area are constructed as a temporary shelter with no proper sewage systems. DEWATS was introduced to this community by Indian Institute of Youth Welfare with the funding support from BORDA, local Gram Panchayat and Municipal Corporation along with the technical support of CDD Society and S.N. Architects. The project helps in the safe disposal of treated wastewater along with improving the environmental and hygienic conditions.

The DEWATS unit built in an area of 820 m² treats domestic wastewater from the toilets, kitchen, and wash-area of the houses in the community. The DEWATS unit also provides partial treatment for domestic wastewater that is tapped from the drain coming from the upstream localities. Therefore this treatment unit, in addition to treating the wastewater generated from the Mahajan Nagar community also reduces the pollution burden by providing partial treatment to the wastewater flowing in the drain collecting wastewater upstream of this settlement. The DEWATS unit at Mahajan Nagar was constructed in two phases, the first phase having only a settler as primary treatment (capacity - 575 m³ per day for 5000 users) and the second phase (capacity - 40 m³ per day for 800 users) having baffle reactor as secondary and planted gravel filter as tertiary treatment process. The treated wastewater is collected in a tank from where it is reused for landscaping and gardening of the community area. The plant is operated by trained personnel from Nagpur Municipal Corporation. The plant shows a treatment efficiency of 95% in terms of removal of organic load.



Registration Information

Delegate Type	Early Bird Rate (Payment received before 5 October 2012)	Normal Rate (Payment received between 6 October – 15 November 2012)	On-Site Rate (Applicable from 16 November 2012 onwards)
IWA Member	US\$350	US\$450	US\$500
Non-IWA Member	US\$450	US\$550	US\$600
Low Income Country – IWA Member	US\$100	US\$150	US\$200
Low Income Country – Non-IWA Member	US\$170	US\$220	US\$270
Student	US\$100	US\$150	US\$200
Local Delegates*	US\$100	US\$120	US\$150

You may register online or download the registration form from www.iwadewats-nagpur.com

*Applicable to delegates of Indian nationalities residing in India

Entitlements

Registered delegates will be entitled to the following:

- Attendance at conference sessions
- Satchel including conference program and CD containing abstracts and/or full papers
- Field visit on 21 November
- Daily morning tea, lunch and afternoon tea
- Welcome Dinner on 20 November

Online registration closes on 15 November 2012. Registrations after 15 November 2012 must be made onsite.

Cancellation of Registration

Cancellations must be notified in writing to the Conference Secretariat. Cancellations received prior to 1 November 2012 receive a full refund less a US\$70 administration charge. Refunds will not be issued for cancellations received after 1 November 2012. Substitute delegates will be accepted without charge.

Accommodation

The official conference hotel is Radisson Blu Hotel Nagpur, where the conference will be held. Special room rates have been secured for conference participants on first come first serve basis, please make your reservation early. Hotel reservations can be done directly with the hotel via below personnel:

Mr. Pratik Chandak
Radisson Blu Hotel Nagpur
T: +91 712 666 5888
F: +91 712 666 5899, M: +91 8600400414
sales2@rdnagpur.com

Please visit www.iwadewats-nagpur.com/register-info.php to download the Reservation Form

Type of Room	Single occupancy	Double occupancy	Guest privileges
Superior	4,500	5,500	<ul style="list-style-type: none"> • Two-way airport transfer • Daily breakfast buffet • Complimentary Wi-Fi internet access • Complimentary incoming faxes • International direct dialing • Daily fruit platter
Business	6,500	7,500	<p>In addition to the above mentioned privileges:</p> <ul style="list-style-type: none"> • Complimentary snacks and drinks at the business lounge from 1800hrs to 2100hrs • Late check-out till 1800hrs (subject to availability) • In-room check-in • Shower cubicle with Jacuzzi

- All rates are quoted in Indian Rupee (INR) and are exclusive of all applicable taxes
- Current tax structure is 10% luxury tax and 6.18% service tax. These taxes are government mandated and subjected to change.
- Cancellation policy - Any booking cancellation must be made in writing 30 days prior to check-in to hotel personnel. Any cancellation made after the cut off date will subject to hotel acceptance and approval.
- Credit card details required to guarantee the hotel room booking

Visa Requirement

Please check with the Indian consulate in your country if you require a visa for entry into India. Should you require a visa, please allow for between 2-4 weeks for your visa application. An invitation letter from the organizers can be provided on request for this purpose, and will be issued only upon completion of registration and full payment of conference registration fees.

Contact Information

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