

# @ - Disha

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Electronic Newsletter on DEWATS Information for Sustainable Sanitation

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Best wishes for a successful 2009! We present ...

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DEWATS at Aravind Eye Hospital

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<http://www.indiawaterportal.org/>

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Test your knowledge...

## @ - Disha Newsletter

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## Prologue:

Best wishes for a successful 2009! We present the January 2009 issue of e-Disha with the renewed hope that our efforts to deliver more decentralised basic need services reaches greater heights. This year witnesses the emergence of large-scale capacity building activities to develop skills that are needed to meet the increasing demand for basic needs services. We thank you for your constant support and encouragement and look forward to working together towards our common goal for facilitating basic needs services.

The Editorial Team would be pleased to receive feedback and suggestions. Contributions to the Newsletter are most welcome.

## Picture of the month:



### **Network Members at the Annual Review and Planning Meeting**

Partner organisations working for the Community Based Sanitation and Slum Development programme supported by BMZ and BORDA - CDD Society, ExNoRa International, FEDINA, IIYW, LEDeG, and RLHP along with the Regional Coordination Offices (RCOs) of CDD met on December 8-13 at Bangalore for the Annual Review Meeting.

## Project fact sheet:

DEWATS at Aravind Eye Hospital, Pondicherry

<http://www.borda-sa.org/modules/wfdownloads/visit.php?cid=6&lid=32>

## Research on sanitation:

Reference may be made to "Asia Water Watch 2015" that assesses the progress made by Asian nations, in meeting Target 10 of the Millennium Development Goals, which is "To halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation".

Click here to read more:

<http://www.indiawaterportal.org/data/datastats/asia-water-watch.pdf>

## DEWATS Elements:

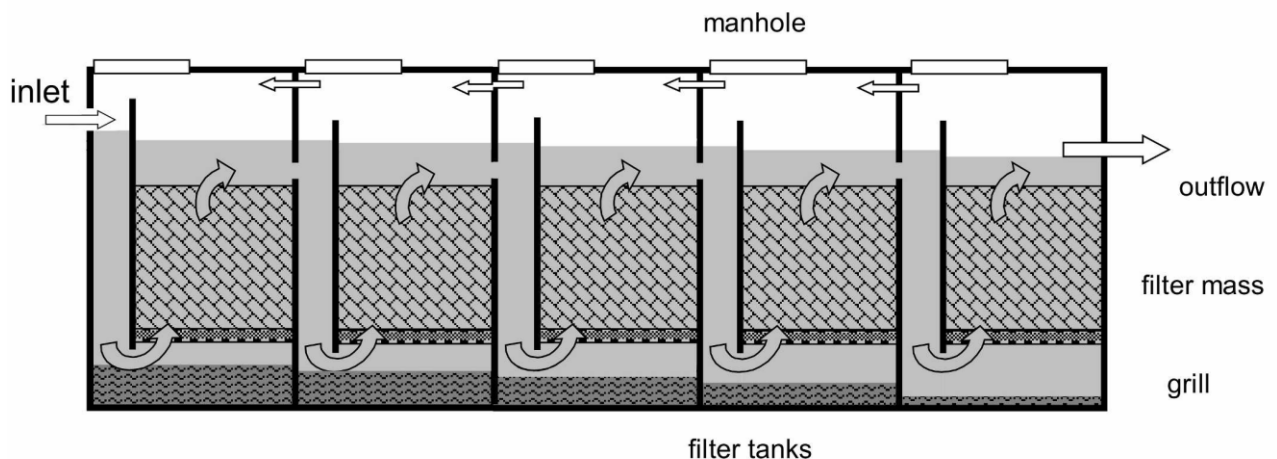
### Anaerobic Filter Design:

The Anaerobic Filter is a secondary treatment module in a DEWATS for carrying out anaerobic decomposition of wastewater. It is suitable for wastewater that has undergone pre-treatment through sedimentation to avoid plugging of filter media. Anaerobic filters treat the unsettled and dissolved solids by bringing them in close contact with a surplus of active bacterial mass present in the filter media.

An anaerobic filter consists of a series of chambers with filter material. They may be operated as down-flow or up-flow systems. In the up-flow system, baffle walls or pipes are provided to force water to flow from bottom to top through the filter media and come into contact with active bacteria.

The main treatment process is through bacteria present in the filter material. The filter material, such as gravel, rocks, cinders or specially shaped plastic pieces provide additional surface area for bacteria to grow: larger the surface area for bacterial growth, quicker the digestion of pollutants. A good filter material provides 90 to 300 m<sup>2</sup> surface area per m<sup>3</sup> of occupied reactor volume.

The filter material is bedded on perforated concrete slabs, resting on support beams placed 500-600 mm above bottom slab. Pumps using the down shafts or pipes carry out the desludging.



Anaerobic filter

By providing adequate space for water before the filter and the outlet pipe ensures equal distribution of wastewater across the filter area. The length of the filter chamber should not exceed the depth of water. Organic loading should be in the range of 4 to 5 kg COD/m<sup>3</sup>/d and the hydraulic retention time between 24 to 48 hours.

The quality of treatment in well-operated anaerobic filters is in the range of 70-90% BOD removal.

## Wastewater Analysis:

### Nitrogen Cell Test

For the determination of nitrate in the range 1-50mg/L NO<sub>3</sub>-N

#### I. Preparation

- Check the Chlorine content. Samples containing > 2000 mg/l Cl<sup>-</sup> must be diluted with distilled water.
- Check the nitrite content. Eliminate interfering nitrite ions (if the nitrite concentration is > 100 mg/l) by dissolving 50 mg of aminosulfonic acid to 10 ml of the sample. The pH of this solution must be in the range 1-3.
- Check the nitrate content. Samples with > 50mg/l NO<sub>3</sub>-N (221 mg/l NO<sub>3</sub><sup>-</sup>) must be diluted with distilled water.
- The temperature of the pretreated sample should be 5°-25 ° C.

#### II. Procedure

Follow the stepwise procedure as depicted on the relevant information card in the Spectrophotometer.

1. Nitrite 0.010-0.700 mg/l NO<sub>2</sub>-N
2. Nitrate 0.5-25.0 mg/l NO<sub>3</sub>-N
3. Nitrate 0.5-18.0 mg/l NO<sub>3</sub>-N
4. Nitrate 1.0-50.0 mg/l NO<sub>3</sub>-N
5. Total Nitrogen 0.5 - 15.0 mg/l N
6. Total Nitrogen 10-150 mg/l N



#### Important

- 🔒 Wastewater analysis should begin immediately after sampling
- 🔒 Prior to using spectrophotometer, water is to be filtered with 0.45µm membrane filter.
- 🔒 Wear eye protection during the nitrate procedure
- 🔒 Filter turbid samples. Extract solids by an appropriate method
- 🔒 When dosing, hold the respective reagent bottle upright, press the slide all the way in and completely retract afterwards. Stopper all reagent bottles immediately after use
- 🔒 Wear eye protection during the nitrate procedure

## Interview:

Highlights of the Volunteer Programme, Weltwärts  
Interview with the volunteers working with CDD Society

### Short background of project



Pic 1.: From left to right - Astrid, Frieda, Natalie and Christina

The Federal Ministry for Economic Cooperation and Development (BMZ) has launched a new volunteer service involving assignments in developing countries. The idea behind the volunteer service is the successful formula of ‘learning by serving’ and its aims are two-fold: to achieve added developmental value for the partner projects and to spark new interest in development issues in Germany.

Under the Weltwärts (“world-ward”) programme, BORDA has selected volunteers based on its project activities to work with its local partner organisations in developing countries. The sectors of assignments are the policy areas and sectors of German development policy - that is, poverty reduction, education, health, food security, agriculture, emergency and transitional aid, environmental and resource protection, water, human rights, promoting democracy, youth employment and sport.

4 volunteers are working currently with CDD Society. Ms. Christina Minh Duong and Ms. Astrid Braeu are working on socio-economic impact assessment of basic need services interventions while Ms. Claudia Frieda Prochaska and Ms. Natalie Schmidt are working on integration of Decentralised Basic Need Services in Urban Sanitation Planning. The volunteers will be in India for 11 months working both at desk and field levels.

01. Why did you opt for the Weltwärts programme?

**Astrid:** Even before of the establishment of this program I was looking for an opportunity to do some voluntary work in the development sector. But before Weltwärts, it was quite difficult to manage, so I was very pleased when I came to know about it. On the other hand on reading more about this BMZ supported program, some doubts came up. Quite often the reputation earned by Weltwärts people isn’t very good. Often they have been branded as lazy young people who just want to have some cheap kind of holiday. For this reason I am now very happy to have found the projects of BORDA that differ a lot from many other Weltwärts projects. That was for me the main reason to choose BORDA’s Weltwärts program as the one I want to support through voluntary work.

**Christina:** I decided to join the Weltwärts programme because of the profile offered which matches my professional background and gives me the opportunity to utilise my experience in another field of work. With the financial support of the programme I also don’t need to worry about how I manage my stay in the country even without a regular income. That’s why it was easy to make my decision on that programme and support the development sector.

**Frieda:** After finishing University, working at the university and in research institutes in Leipzig, Germany, I was seriously eager to shift to a task related to practical aspects. In addition to this, I have been looking again for a challenging work in a different country.

I already had worked in the fields of water supply, waste water treatment and sustainable development and other related services. Due to this I did not opt for any Weltwärts programme but especially for project work with BORDA, particularly CDD. I appreciate the great opportunity to work in the field, and more importantly, gain experience working under

different conditions while supporting the truly important and correct approach to the Decentralized Basic Needs Services provided by CDD.

**Natalie:** Actually I opted for the job or rather for the project I am working on and not specifically for the Weltwärts programme. I read the job advertisement, which I received from the university. I had almost finished my studies in geography and was searching for a new challenge. The terms of References for the voluntary service sounded very interesting and promised a terrific experience. Since the interview with BORDA I am totally convinced of the work and philosophy of BORDA and CDD. So I decided to do this experiment with the willingness to support CDD and to improve my personal and technical horizon.

*To be continued...*

## Events:

### ● Annual Review and Planning Meeting 2008

The Annual Review and Planning Meeting for 2008 was held from December 8-13 at Bangalore. CDD Society, 5 Partner organisations (ExNoRa International, FEDINA, IYW, LEDeG, and RLHP) and the Regional Coordination Offices (RCOs) of CDD met to review the last 3 years of working together focusing on the lessons learnt as well as the achievements. The presentation from each organisation provided details on impacts and impact indicators including the quantity and numbers of results achieved. Lessons learnt and constraints faced during the implementation phase were discussed and analysed in details. On completion of the Review each organisation presented their consolidated view of the Network strategy for Phase III (2009-2011).

On 12<sup>th</sup> December, other members of the CDD Network joined the Meeting to deliberate on activities that could be carried out in the next 3 years. Work packages to achieve the results were discussed and the various organisations offered to implement these packages in the coming years.

The new Phase III of the Project supported by BORDA and BMZ 'Poverty reduction and sustainable protection of natural resources in South Asia' begins in January 2009 where the focus of activities is on upgrading of skills and capacity building for increased delivery of basic need services.

## Interesting Link:

<http://www.indiawaterportal.org/>

The India Water Portal

An open, inclusive, web-based platform for sharing water management knowledge amongst practitioners and the general public.

## Quiz - Test your knowledge on Sanitation:

**Q.** Access to sanitation, the practice of good hygiene, and a safe water supply could save how many children each year?

*Hint:* [youthink.worldbank.org/](http://youthink.worldbank.org/) issues