

**Report on the Discussion Meet  
on  
“DAE-CSIR Program on Safe Drinking Water”**

**Venue: Homi Bhabha Centre for Science Education ( HBCSE)**

**Date: 27<sup>th</sup> Nov, 2008**

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1. Nos. of Participants (Registered): 72
2. Nos. of EOI respondents: 191
3. Nos. of EOI respondents who have presented their viewpoints: 18

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There were four sessions in the discussion meet;

**A. Inaugural Session :**

Dias persons were;

Dr. S. Banerjee, Director, BARC

Shri B. P. Sharma, Director, ChEG, BARC

Dr. P. K. Tewari, Project Coordinator and Head, DD, BARC

Shri B.P. Sharma delivered the welcome address with brief introduction of the program and highlighted the necessity of the project. Director, BARC delivered the Inaugural Address highlighting the background of the project proposal and requested the EOI respondents to express their viewpoints. Dr. Tewari thanked the EOI respondents and invitees.

**B. Forenoon Session: To present the technologies available at DAE and CSIR Centers.**

The Session was chaired by Shri S. K. Ghosh, Associate Director, Chem. Engg. Group, BARC. Participants were briefed about the objectives of DAE-CSIR Program on Safe Drinking Water, responses received through EOI, BARC and CSIR technologies on desalination and water purification.

**B.1: Talk on the objectives of DAE-CSIR Program on safe drinking water by Dr. P. K. Tewari, BARC:**

Dr. Tewari covered the water scenario and contaminants spectrum in India along with background information of the project, numbers of EOI respondents (191 nos) in three categories namely NGO (107 nos), private companies (68 nos) and individuals (16 nos). Proposal of various EOI respondents were briefed. The implementation strategies and financial model for self-sustainability of the program was also presented.

**B.2: Talk on the BARC technologies related to water desalination and purification by Dr. S. Prabhakar, BARC:**

Technologies, related to water desalination and purification, developed and deployed by BARC at various locations were presented along with their individual merits and demerits.

**B.3: Talk on the desalination and water purification technologies of CSIR by Dr. A.V.R Reddy, CSMCRI:**

Technologies, related to water desalination and purification, developed and deployed by various CSIR laboratories viz. CSMCRI, Bhavnagar; CGCRI, Kolkata; IMMT, Bhubaneswar; NEERI, Nagpur; NML, Jamshedpur were presented with special emphasis on development of membranes.

**B.4: Talk on the CSIR technologies on arsenic and iron removal by Dr. S. Bandyopadhyay, CGCRI :**

Technologies, related to arsenic and iron removal, developed and deployed by CSIR laboratories viz. CGCRI, Kolkata; NEERI, Nagpur; NML, Jamshedpur were presented with special emphasis on CGCRI technologies.

**B.5: Talk on bankable proposition by Chief Branch Manager, SBI, BARC:**

He stated that SBI may provide facility of banking at concessional rates to the projects being taken up under the “DAE-CSIR Program on Safe Drinking Water” program on the lines of agricultural models dealt by SBI.

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**C. Afternoon Session: Views of Respondents of EOI.**

The Session was chaired by Shri S. K. Ghosh, Associate Director, Chem Engg Group, BARC. The afternoon session covered the views of the some of the respondents of EOI.

**C.1: Shri Amit Jain; Chief Operating Officer and National Director, Naandi Foundation, Hyderabad**

Shri Amit Jain briefed about the activities of Naandi Foundation. The foundation is active in Maharashtra, Andhra Pradesh, Madhya Pradesh, Nagaland, Chhattisgarh, Rajasthan, Punjab and Andaman & Nicobar. He presented a few case studies and Triparty Model involving Technical Partner, Govt/Gram Panchayet and Project Management team which is being followed by Naandi Foundation in rural areas. As per his experience, the affordability issue is very important. The viability gap may vary from place to place which must come from the program to make safe water affordable and scheme successful.

**C.2: Shri Pradip Lulla; M/s Sonadka, Small Scale Industry, BARC Licensee, Point of Use device supplier:**

Shri Pradip Lulla presented his views on the success story of BARC developed water purifier of varying capacities from domestic to community level. He presented a case study where this product supplied by his company is working in a commercially viable manner supplying safe water at Elephanta Caves and at many other places.

**C.3: Dr. Mazhar A. Rashidi (Participatory Practitioner) PRATINIDHI, Lucknow-U.P:**

He presented his experiences and lessons learnt from POUZN Project in Urban Slums and emphasized on increasing awareness on using water test kit and subsequently making available of water purification device by inviting commercial partner and finally affordability with NGO/ contributory agency's help.

**C.4: Dr. Murlidhara Reddy, President, MATHA Socio Educational Society, Andhra Pradesh:**

Dr. Murlidhara Reddy Expressed the problem of Fluoride in ground water in Kurnool area, A.P and discussed the means of providing safe water with Government help.

**C.5: Dr. R.P. Dambal, C.E.O, Pollu Tech Aids, Proprietor, Dr. R.P. Dambal & Co., Bangalore:**

Dr. R.P. Dambal expressed his views on environment protection with special reference to industrial and drinking water. He expressed concern on ground water contamination by sewage and industrial effluents and requested Government Authorities to liberalize BIS certification procedure and improving delivery system of water.

**C.6: Shri Mayank Srivasatava; Country Representative Label step– Max Havelaar Foundation, Switzerland in collaboration with Dr. Sambhunath Singh Research foundation, Varanasi, U.P:**

Shri Mayank Srivasatava talked on underground water contamination in Bhadohi district due to dyeing plants and emphasized on the need for implementation of environmental regulation to overcome water contamination.

**C7. Sushri Supriya Deshpande, Section Head, Waste Management, M/s Walchandnagar Industries Limited, Pune:**

M/s Walchandnagar Industries Limited expressed their willingness to work under the technological back-up of DAE and CSIR as social commitment.

**C8. Shri Jaharlal Bhattacharya; Secretary, Janakalyan Parishad, Tripura:**

He expressed that his organization is maintaining safe drinking water plants since 2006, on CGCRI technology. The plant was put-up by the organization taking bank loan and now, they are in a position to pay the bank EMIs regularly and also plant maintenance, through revenue collection from the local villagers. He expressed his eagerness and agony about BIS certification procedure and the high charges being levied for the certification of purity.

**C9. Shri P. Senthilnadan; Senthil Engineering Company, Coimbatore Private Industrial Estate, Industry, Coimbatore:**

He stated that M/s Senthil Engineering Company is manufacturer of various water treatment equipments and plants namely On-Line Double filtration Double disinfection systems (to reduce turbidity, and eliminate bacteria); On-line Double filtration with Iron Removal and Double disinfection systems (to reduce Turbidity, Iron and eliminate bacteria); On-line Iron removal plant for Hand Pumps (to reduce Iron content present in bore well water) and On-line Fluoride removal plant for Hand pumps (to reduce Fluoride content in bore well water). He expressed the desire to work under the DAE-CSIR scheme.

**C10. Shri Anil K. Singh; Chief Executive, Network of Entrepreneurship and Economic Development (NEED), Lucknow:**

NEED is interested to be associated in the community awareness program by the way of distributing safe drinking water kit and service driven micro-finance scheme.

**C11. Shri Sanjeev Srivastava, M/s Doshi Ion Veolia Ltd; Ahmedabad:**

The Company has their Mission SWASTH program (Safe Water Assurance Scheme for Total Health), operating on 14 different locations with their capital and working since last two years. The plants are of mobile nature. The products are distributed in unsealed container to avoid BIS

certification and collection through monthly card system. The delivery and revenue collection is obtained by involving local bodies. The company is interested to invest their capital based on minimum off-take warranty.

**C12. Shri M.P.S. Puri ;Managing Consultant, M/s Synergy International, New Delhi:**

Shri Puri presented a video demonstration on UV based solar-driven safe drinking water system. He is interested to multiply the solar based technologies at different parts of country, through the DAE-BARC program.

**C13. Dr. Claire Elouard, SUKH BHUMI, Hope for Peace International Foundation, Thane, Maharashtra:**

Dr. Claire highlighted the water charging and water harvesting scheme to provide low budget potable water.

**C14. Shri Rajendra Desai; Dy. GM (Desalination), M/s Jindal Water Infrastructure, Mumbai:**

Shri Rajendra Desai expressed that their company intends to work as an operator in this DAE-CSIR program with their own funds as a part of the corporate social responsibility. The viability gap for making safe water affordable may come from this program.

**C15. Dr. Sunil Aberol; Director General, CDC, DSIR, New Delhi :**

CDC is interested to work as a long term consultant in this DAE-CSIR program including standardisation of various models, depending upon site and technology.

**C16. Shri Y. Nagraj, The Energy and Resources Institute (TERI), Bangalore:**

Shri Y. Nagraj presented “Implementation model for Execution of the program on “Safe Drinking Water” at various locations across the country. He shared their experience on development and implementation of water treatment technologies (e.g. solar desalination, multistage solar still and solar pond), development of decentralised system of water supply- Water Kiosk, Consultancy for Rainwater Water Harvesting (RWH) structures, watershed development/ evaluation of watershed projects; policy making– waste management and conducting training programmes/ awareness activities [water and conservation in rural areas, awareness building on water related issues, conference on drinking water & Community sensitization on water and pollution] .

**C17. Shri S.D. Majumder, Vice President, H&R Johnson (I) Ltd:**

M/s H&R Johnson (I) Ltd is interested to act as a manufacturing base of multi-channel ceramic modules under the partial financial support from the DAE-CSIR program and with a given minimum off-take warranty. Presently, they supply various types of multi-channel ceramic modules to CGCRI, Kolkata.

**C18. Shri V. B. Danawade; Partner Danawade Aqua Minerals, Sangli, Maharashtra:**

Shri V. B. Danawade presented his experiences in putting-up iron removal plants in Konkan Areas of Maharashtra and expressed concern of getting local clearances for putting –up the plants.

#### **D. Panel Discussion:**

At the end of the Discussion Meet, panel discussion was held which was moderated by Shri G. P. Srivastava.

1. Shri G. P. Srivastava – Moderator; Director E&I Group, BARC
2. Shri D. S. Shukla-Former Director , ChETG, BARC
3. Shri A. Ramaiah –IFA, BARC
4. Shri A. M. Patanker –Head, TT&CD, BARC
5. Dr. S. Bandopadhyay- CSIR Représentative, CGCRI, Kokata
6. Shri Amit Jain- Nandi Foundation, NGO Representative
7. Shri A.B Chougule, M/s Kirlosker Brothers Ltd, Industry Representative

Dr. S. Banerjee Director, BARC took part in the discussion.

It was decided that the matrix with following elements will be prepared for the action plan.

- (i) Technology: The desalination and water purification technologies under this program will be made available to the intermediate agencies or users nearly free of cost as per considered merit.
- (ii) Categorization of technologies with respect to plant capacity, types and location
- (iii) Users profile
- (iv) Financial model and Revenue collection mechanism
- (v) Bankable proposition and defining viability gap based on the site and technology.
- (vi) Social cost benefit analysis with respect to safe drinking water, creation of job opportunity.
- (vii) Availabilities of utilities at site like space, electricity etc from the local panchayet/ urban local body

The Discussion Meet ended with Concluding Remarks from Shri G.P. Srivastava, BARC. He said that BARC and CSIR would assist in getting the necessary government/ environmental clearances if required and stated that all queries of the EOI respondents with respect to program implementation be addressed to Dr. P.K. Tewari, Project Coordinator.