

**National Environmental Engineering Research Institute (NEERI),
Nagpur**
**Brainstorming Workshop on Interface between Water Technology Developers and
Other Stakeholders held at Nagpur on September 7, 2010**

A workshop was organised on September 07, 2010 at Nagpur to develop interface between water treatment technology developers and other stakeholders particularly those associated with water supply namely officials of Department of Drinking Water Supply, Public Health Engineering Department, NGOs, International Organisations and Professional Associations. The workshop was attended by more than 50 participants and list of participants is appended. This workshop is supported by Department of Science and Technology, New Delhi.

Following four interactive sessions were held in which issues related to the water treatment technologies were discussed:

- I. Current Scenario and Perspective of Government of India and State Governments,
- II. Development and Perspectives of Research/Academic Institutions,
- III. Role of National/International Associations/ Organisations and Industries,
- IV. Role of community based organizations/NGOs.

In the first session, Mr. Bharat Lal, Advisor, Department of Drinking Water Supply, New Delhi made presentation and highlighted water quality issues, treatment technologies, limitations of technologies and necessity of stakeholder convergence. Dr. P.K. Mehrotra, Ministry of Water Resources, New Delhi informed that there are 10 ministries/departments of Government of India which work on water and there is need to develop “water hub” to avoid duplication of efforts. Mr. Vineet Saini, Department of Science and Technology (DST), New Delhi highlighted programmes of DST on water and proposed “solution science” for end-to-end solution for water treatment.



Dr. Pawan Labhassetwar, NEERI, Nagpur highlighted water treatment technologies developed by CSIR laboratories and other agencies under various programmes of and issues related to water supply and treatment technologies. Dr. S.R. Wate and Dr. T. Chakrabarti while moderating sessions emphasised the need for local considerations, simplicity and ease in operation and maintenance of water treatment technologies.



Dr. Nimish Shah, Hindustan Unilever, Bangalore in his presentation represented views and highlighted contribution of industries in making awareness of water contamination, reduction in disease burden, scale-up and affordability, standardization and certification and provision of safe water. Mr. Krishna, Arghyam, Bangalore presented on role of NGOs and community based organizations in communication the need for the technology to rural community. Mr. Chandi Charan Dey and Mr. Sunderrajan in their address appealed technology developers particularly from research and academic institutions to seek help from NGOs to reach to the common masses. Various stakeholders shared their experiences about the major bottlenecks restricting field implementation of the technologies. Feasibility of implementing these technologies with the assistance from water supply agencies was also discussed.

It was pointed out that some of the technologies remain confined to the laboratory and even if they come out, community and water supply agencies find them difficult to adopt. It was agreed by all that the technology developers and R&D institutions should come out with water treatment technologies which are required by the people. Water treatment technologies

should cross the barriers of patents, papers, conferences, workshops, brainstorming sessions, demonstrations etc. and actually serve people.

Dr. S.R. Wate, Director, NEERI while summarizing the proceeding of the workshop highlighted importance of each stakeholders and appealed for close coordination among themselves. He suggested to participants from research institutions to consider need of the community and views of stakeholders before developing technologies. He suggested that scientists should work closely with community and NGOs to enhance implementation to transform technologies from lab to land.



Outcome of the workshop and the way forward is summarized below:

- Develop database of preventive mechanism and technologies – success stories and failure analysis
- Depository of IEC tools for community mobilisation
- Evolve process with stakeholders for technology development – consultation before initiating technology development/ modifications
- Improved technology logistics
- Approach for validation of technology claims
- Synergy among various technology development programmes/ agencies/stakeholders

All the sessions of the Brainstorming Workshop were very interactive and various valuable observations and recommendations were made by renowned participants. Some of these recommendations are as follows:

1. There is need for the improvement in water quality and availability in rural area by working on water quality problems on continuous basis by allowing access to laboratories and R & D institutions. Funds are available with Department of Drinking Water Supply (DDWS) and State agencies for providing safe water to the community in rural area
2. The establishment and development of Block Resource Center is must for technology transfer, community mobilization, water quality management and technology development.
3. Solutions and technologies are needed to solve issues regarding water quality, water quantity, water scarcity, water recycling and sewage management.
4. It is necessary to identify various sites having water problems and challenges and accordingly develop techniques, materials and systems.
5. It is important to look for the limitations of the existing and developing technologies and innovate new technologies which will require minimum conventional power, resources and maintenance.
6. User friendly (public oriented) technologies should be developed so that these technologies should be easily accepted by people.
7. Training programs for water managers, decision and policy makers should be arranged.
8. There is need for demand based water technologies.
9. It is important to protect water but also to remediate the water quality issues.
10. Water Safety Plans (WSP) for each districts and states of India must be developed.
11. Artificial recharge techniques for safe water are required to be practised.
12. There is need of research initiatives particularly multi-disciplinary initiatives, natural resource conservation, drinking water supply management, sharing of information, national disease surveillance program specifically concentration on water borne diseases, awareness and debate on water related issues.
13. Improvements are needed in the area of bulk (mass) and individual water supply and specifically for bulk water supply in order to make it easy to supply and cost effective.
14. Investment and development are needed in the area of bulk water supply.
15. Water Hub (Knowledge Center) should be developed for convergence as about 10 different ministries work on water related issues. This water hub or institute will play role of Resource Center on all water issues.
16. Easy access to water testing laboratories and equipments is required.

17. There is need for inventory of technologies for water technology developers and stakeholders.
18. It is necessary to move from reactive to proactive mode for water management.
19. Robust water management information system is needed.
20. Technology developers and stakeholders should come together and should take advantage of each other.
21. There is need for problem based solutions.
22. Main concern should be about application of water treatment technologies and efficiency considerations should be secondary.
23. Surveillance and monitoring of water quality issues is needed.
24. It is necessary to talk and consult with the people while developing technologies. Technologies should be public oriented (friendly).
25. We must identify access and quantify problems and interventions should be proposed later.
26. Safe handling and storage practices for drinking water are must.
27. We need to recognize much wider spectrum of pathogens (bacteria, virus, parasites).
28. Target of treatment technologies should be reduction of coliform particularly reduction of specific bacteria, viruses and parasites.
29. We must have infrastructure, R & D resources and very strict SOPs (Standard Operating Procedures) for each and every parameter of water quality.
30. Water mapping is must to detect water quality due to seasonal variations throughout the year.
31. It is important to assess the need, quantify the problem and then develop the technology.
32. Industries should keep the interest of consumer specially consumer's safety and develop eco-friendly technologies.
33. Industries have to keep constant watch on impact of disposal from treatment technologies so that they should not degrade environment.
34. Standardization and certification of technologies are very important so that technologies should be relevant to people.
35. Very strict enforcement and regulatory agency for safe drinking water is must.
36. Rain water should be conserved.
37. Techniques for recharging groundwater should be developed and practiced.

38. There is a need to come up with ONE STOP Solution where pollutants in water sample should be identified within short time.
39. The kind of development which is taken in clinical sector, the same kind should be taken in water sector. This is very important.
40. National agency should assess or evaluate the performance of water treatment technologies particularly in the field.
41. Standards for rain water harvesting are required.
42. Major role should be played by Health Agencies for prevention and awareness of water borne diseases.
43. Strong policy support and guidelines are needed for government, agencies and institutions to support CBOs (Community Based Organizations) and NGOs (Non Governmental Organizations) so that they should involve in the process.

List of Participants

Brainstorming Workshop on “Interface between Water Technology Developers and other Stakeholders” on September 7, 2010

Sl. No.	Name	Contact Details
1.	Mr. Nipun Vinayak Dy. Secretary Water Supply & Sanitation Department 5 th Floor, Mantralaya <u>Mumbai – 400 032</u>	Mobile: Phone: Email:
2.	Mr Vineet Saini Scientist C Room No. 5, Hall J Ministry of Science & Technology Department of Science & Technology Technology Bhavan <u>New Delhi- 110016</u>	Mobile: 09868879275 Phone: 011-26590372 Email: vineet.saini@nic.in
3.	Dr. Jayakumar Director CGWB <u>Nagpur</u>	Mobile: 9225582801 Phone: Email: rdcr-cgwb@nic.in
4.	Mr. Bharat Lal Director MRD, DDWS 9 th Floor, Paryavaran Bhavan, C.G.O. Complex, Lodhi Road <u>NEW DELHI – 110 003</u>	Mobile: 09810245483 Phone: 011-24360102 Email: bharat.lal@nic.in
5.	Mr. Arumugam Kalimuthu Director (Policy & Strategy) Plan India <u>New Delhi</u>	Mobile: 09868888870 Phone: Email: Kalimuthu.arumugam@plan-international.org
6.	Mr. Sunderrajan Carewater <u>Vadodara</u>	Mobile: 09925756469 Phone: Email: carewater@gmail.com
7.	Mr. Suresh Jaiswal Technical Officer WaterAid <u>Bhopal</u>	Mobile: 09179084482 Phone: Email: SureshJaiswal@wateraid.org
8.	Mr. Vijay Krishna Arghyam #599, 12th Main, Indira Nagar HAL 2nd Stage,	Mobile: Phone: Email: vijay@arghyam.org

Sl. No.	Name	Contact Details
	<u>Bangalore-560008.</u>	
9.	Mr. Satish Awate Centre for Environmental Education <u>Pune</u>	Mobile: 09881749039 Phone: Email: satish.awate@ceeindia.org
10.	Mr. Nimish Shah Director Safety & Environmental Assurance Centre , Unilever R&D Laboratory <u>Bangalore</u>	Mobile: 09341703119 Phone: Email: nimish.shah@unilever.com
11.	Ms. Payden Regional Advisor Water Sanitation and Health, World Health Organization Regional Office for South-East Asia World Health House, Indraprastha Estate, Mahatma Gandhi Marg <u>New Delhi – 110 002.</u>	Mobile: 09910699081 Phone: Email: payden@searo.who.int
12.	Mr. M. M. Datta Ag.Focal Point (SDE) WHO India Country Office, Room No.537-A Wing Nirman Bhawan <u>New Delhi -110011.</u>	Mobile: 09868817602 Phone: Email: dattam@searo.who.int , dattamm@yahoo.com
13.	Mr. Sanjay Singh UNICEF <u>Bhopal – 462 013.</u>	Mobile: 09425301369 Phone: Email: sanjsingh@unicef.org
14.	Dr. P.K. Mehrotra Director (WQ) Ministry of Water Resources <u>NEW DELHI – 110 001.</u>	Mobile: 09868817373 Phone: 011-23710170 Email: mehrotra.pk@nic.in
15.	Mr. P.K. Parchure Supdt. Hydrogeologist & Head of Office Central Ground Water Board Central Region, NS Bldg., Civil Lines <u>NAGPUR – 440 001.</u>	Mobile: 9423684849 Phone: Email: pkparchure@sify.com Rdcr-cgwb@nic.in
16.	Er. T. Prabhakara Rao Superintending Engineer RWS&S, Circle-Mahabubnagar <u>MAHABUBNAGAR (AP).</u>	Mobile: 09959020044 Phone: Email: SE_RWS_MBNR@ap.gov.in

Sl. No.	Name	Contact Details
17.	Dr. Tapas Chakma Scientist E (Deputy Director-Medical) Regional Medical Research Center for Tribals, <u>JABALPUR - 482003</u>	Mobile: Phone: Email: tapas_chakma@rediffmail.com
18.	Dr. Priyanie Amerasinghe Senior Researcher (Biomedical Sciences) IWMI Hyderabad Office C/o ICRISAT <u>Patancheru 502 324 (AP)</u>	Mobile: 09425386345 Phone: Email: p.amerasinghe@cgiar.org
19.	Prof. V.A. Mhaisalkar Head Civil Engineering Department Vishveshwaraya National Institute of Technology (VNIT) <u>NAGPUR- 440 010.</u>	Mobile: 9822291701 Phone: Email: vasantmhaisalkar@yahoo.com
20.	Dr. Rajesh Gupta Civil Engineering Department Vishveshwaraya National Institute of Technology (VNIT) <u>NAGPUR- 440 010.</u>	Mobile: 9823640157 Phone: Email:rajeshgupta@civ.vnit.ac.in
21.	Mr. Vaneet Gupta Country Manager NSF International <u>Gurgaon</u>	Mobile: 09899627270 Phone: Email: vgupta@nsf.org
22.	Mr. Vivek Singh Eureka Forbes <u>Bangalore</u>	Mobile: 09634090371 Phone: Email:
23.	Dr. Pralay Basu 4, Jagat Roychoudhury Road <u>Kolkata – 700 008</u>	Tel: 033 – 64570693 Mobile : 09830049835 Email: save1990env@yahoo.co.in, ste@vsnl.net
24.	Dr. Kanika Kalia Asst. Director (Water Resources) Bureau of Indian Standards Manak Bhavan, 9, Bahadurshal Zafar Marg <u>NEW DELHI – 110 002.</u>	Mobile: 09868210862 Telefax: 011-23231906 Email: wrd.bis@gmail.com kanika@bis.org.in

Sl. No.	Name	Contact Details
25.	Mr. Chandi Charan Dey, coordinator for water and sanitation with RKMLP, <u>Narendrapur (W.B)</u>	Mobile: 09831319505 Phone: Email: rkmwatsan@gmail.com
26.	Mr. Sharad Rode Asst. S.E. Division Commissioner Building Room No. 967 Bharat Nirman Cell, Civil Lines <u>Nagpur – 440 001</u>	Mobile : 9422111230 Fax: 0712-2540204 Email: sharadrode@rediffmail.com
27.	Mr. Narendra Bangre Executive Engineer Maharashtra Jeevan Pradhikaran Civil Lines, Near CP Club <u>Nagpur – 440 001</u>	Mobile : 9881727151 Email: emjp_ngp@rediffmail.com
28.	Mr. Manoj Baghel Sub Engineer, PHED <u>Seoni (MP)</u>	Mobile: 09407848630 Phone: Email:
29.	Mr. Nitin Umbralkar Ion exchange <u>Mumbai</u>	Mobile: 09324404281 Phone: Email:
30.	Dr. A.K. Singh CIMAP <u>Lucknow</u>	Mobile: 09453016214 Phone: Email:
31.	Er. Rajeshwar Prasad General Manager Uttarkhand Peyjal Nigam <u>Uttarakhand</u>	Mobile: 09412920966 Phone: Email:
32.	Dr. J.P. Shukla, Scientist E-I' AMPRI, <u>Bhopal</u>	Mobile: 09425600630 Phone: Email: jpshukla@yahoo.com
33.	Dr. Raghuvanshi Ram, 'Scientist E-I' AMPRI, <u>Bhopal</u>	Mobile: 09425014052 Phone: Email: raghuvanshiram@rediffmail.com
34.	Dr. Biswajit Ruj Scientist	Mobile: 09474372196 Phone: 0343-6452156

Sl. No.	Name	Contact Details
	CMERI, <u>Durgapur</u>	Email: biswajitruj@yahoo.co.in
35.	Dr. Bala Kameswari Scientist Environmental Technology Division Central Leather Research Institute, Adyar <u>Chennai- 20</u>	Mobile: 09445264853 Phone: Email:
36.	Mr. Rajan Scientist Environmental Technology Division Central Leather Research Institute, Adyar , <u>Chennai 20</u>	Mobile: 09445393400 Phone: Email:
37.	Dr. Sibdas Bandopadhyay Scientist G & Head, Ceramic Membrane Division CGCRI <u>Kolkata - 700032</u>	Mobile: Phone: Email:sibdas4@rediffmail.com <u>membrane@cgcri.res.in</u>
38.	Dr. Swachchha Majumdar Scientist, Ceramic Membrane Division, CGCRI <u>Kolkata - 700032</u>	Mobile: 09831720905 Phone: Email:swachchha@cgcri.res.in
39.	Botre Bhusaheb Ashok Scientist -IV(2) (CEERI/CSIR), Central Electronics Engineering Research Institute, <u>Pilani, Rajasthan, India.</u>	Mobile: 09462150264. Phone: Email: bbotre@gmail.com
40.	Dr. J. Ansari Scientist EII, Environmental Technology, NIIST-CSIR, <u>Trivandrum</u>	Mobile: 09447206472 Phone: Email:kollanansari@yahoo.com
41.	Dr. R. K. Tewary, Scientist EI Water Env. Division Central Institute of Mining and Fuel Research , Barwa Road, <u>Dhanbad - 826 015, Jharkhand</u>	Mobile: 09431122957 Phone: Email: <u>tiwaryrk_cmri@yahoo.com</u>
42.	Dr. Shakeel Ahmed Scientist G NGRI <u>Hyderabad</u>	Mobile: 09849919496 Phone: Email:shakeelahmed@ngri.res.in

Sl. No.	Name	Contact Details
43.	Dr D.V. Reddy, Scientist F NGRI <u>Hyderabad</u>	Mobile: 09440764064 Phone: Email:
44.	Dr K. Ram Mohan, Scientist C NGRI <u>Hyderabad</u>	Mobile: 09490443117 Phone: Email:
45.	Dr. P. Katoky Scientist F NIEST, <u>Johrat - 785006</u>	Mobile: Phone: Email:
46.	Dr. R. L. Bezbaruah, Scientist F NIEST <u>Johrat - 785006</u>	Mobile: Phone: Email:
47.	Dr. V D Shivling Scientist CSIO, Agrionics <u>Chandigarh-160030</u>	Mobile: 09463967232 Phone: Email:vvdatta2007@yahoo.com
48.	Dr. Babankumar S Bansod Scientist CSIO, Agrionics <u>Chandigarh-160030</u>	Mobile: 09888520252 Phone: Email:baban79@yahoo.com
49.	Dr. G. Bhaskar Raju NML, MadrasCentre <u>Chennai</u>	Mobile: 09884971542 Phone: Email:
50.	Dr. G. Sozhan CECRI Karaikudi	Mobile: 09843182678 Phone: Email:
51.	Dr. S.R. Wate Director, NEERI, Nagpur	Phone:0712-2249999 director@neeri.res.in
52.	Dr. C.V. C. Rao NEERI, Nagpur	cvc_rao@neeri.res.in
53.	Dr. T. Chakrabarti NEERI, Nagpur	09422110351 t_chakrabarti@neeri.res.in
54.	Mr. P.S. Dutt NEERI, Nagpur	09766275377 ps_dutt@neeri.res.in

Sl. No.	Name	Contact Details
55.	Dr. Nitin Labhassetwar NEERI, Nagpur	09850316799 nk_labhassetwar@neeri.res.in
56.	Dr. Aabha Sargaonkar NEERI, Nagpur	09326733667 ap_sargaonkar@neeri.res.in
57.	Mr. Asheesh Sharma NEERI, Nagpur	09373237251 a_sharma@neeri.res.in
58.	Dr. B.K. Sarangi NEERI, Nagpur	09421706693 bk_sarangi@neeri.res.in
59.	Dr. H.J. Purohit NEERI, Nagpur	hj_purohit@neeri.res.in
60.	Dr. Rakesh Kumar MuZL, Mumbai	r_kumar@neeri.res.in
61.	Dr. Pawan Labhassetwar NEERI, Nagpur	09423687381 pk_labhassetwar@neeri.res.in
62.	Mr. Subhash Andey NEERI, Nagpur	09423681551 sp_andey@neeri.res.in
63.	Mr. Prakash Patni NEERI, Nagpur	pm_patni@neeri.res.in
64.	Dr. Paras Ranjan Pujari NEERI, Nagpur	09423684077 pr_pujari@neeri.res.in
65.	Dr. Gajanan Khadse NEERI, Nagpur	gk_khadse@neeri.res.in
66.	Dr. Shrimanth Kagne NEERI, Nagpur	s_kagne@neeri.res.in
67.	Dr. C. Padmakar NEERI, Nagpur	c_padmakar@neeri.res.in
68.	Dr. Leena Deshpande NEERI, Nagpur	l_deshpande@neeri.res.in