

## **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.