Activity Report

Residential Training Programme

Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance

11-13 February 2019

Programme Coordinators
Dr. C. K. Jain

Sponsored by:
Central Pollution Control Board, Delhi

NATIONAL INSTITUTE OF HYDROLOGY
JAL VIGYAN BHAWAN
ROORKEE – 247 667

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on
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BACKGROUND

Urban settlements and growing industrial development, combined with rapid increasing demand for water, are causing more and more water quality problems. More than ninety percent of water quality problems in India are due to indiscriminate discharge of municipal wastes. These wastes being biodegradable produce a series of directional but predictable changes in water bodies. Industrial effluents are responsible for pollution to a lesser extent but the effects produced by them may be more serious as nature is often unable to assimilate them. Modern agriculture is also responsible for degrading the river water quality by generating runoff from animal husbandry units, which contain predominantly organic compounds from the use of mineral fertilizers and chemical pesticides. In most cases the sources and concentrations of non-point source pollutants are the result of land use interactions with the transport system.

As we all know that a lot of advancement has taken place during last few years in the field of analytical tools and techniques for water quality monitoring and there is a need for exposure of scientific community to modern tools and techniques to keep pace with the rapid technological advancements taken place in the field of water quality monitoring. Accordingly, the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance has been organized under the HRD programme of Central Pollution Control Board (CPCB) during 11-13 Feb. 2019 at NIH, Roorkee to provide an overview of water quality monitoring, data interpretation and quality assurance to have full knowledge of the latest advancements taken place in the field of water quality monitoring with focus on concepts and practices. The training programme was sponsored by Central Pollution Control Board, Delhi as per sanction order vide CPCB vide F.No. B-13011/NIH-Roorkee/ETU/2018-19/2170 dated 08.04.2018.

OBJECTIVE

To impart knowledge and technological advancements taken place in the field of water quality monitoring of surface, ground, waste water / effluents, data interpretation and quality assurance.

INAUGURATION

The Inaugural Function of the Training Programme was started at 10.30 A.M. on 11th February 2019 in the Society Room of the Institute. Dr. C. K. Jain, Scientist ǵGô and Head, Environmental Hydrology Division, NIH, Roorkee presided over the Inaugural Function. Twenty

one participants from Central and State agencies attended the Training Programme which include officers from CPCB, CGWB, CWPRS, NIH, State Pollution Control Boards from Andhra Pradesh, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalaya, Odisha, Uttar Pradesh, etc.

Dr. C. K. Jain, Scientist ǵGô & Head, Environmental Hydrology Division and Coordinator of the Training Programme welcomed all the participants and scientists present on the occasion. In his address, Dr. Jain highlighted the importance of the Training Programme in the area of Water Quality Monitoring, Date Interpretation and Quality Assurance. He also highlighted organization of the course structure and topics to be covered in the Training Programme. He then requested all the participants to interact effectively with the expert faculty members for benefit of each other.

TRAINING SCHEDULE

The training programme extended for three days covering 16 technical and laboratory sessions and field visit each covered with a time frame of about one hour with more focus on concepts and practices. The details of the training schedule including lectures and laboratory sessions are given below:

11th February 2019		**Faculty**
0930 ï 1030	Registration	-
1030 ï 1100	Overview of the Training Programme and Introduction of Participants	-
1030 ï 1100	Inaugural Tea	-
1100 ï 1200	Water Resources Management in India	Dr. Sharad K. Jain
1200 ï 1300	Water Quality Monitoring Planning	Dr. C. K. Jain
1300 ï 1400	Lunch	-
1400 ï 1500	Sampling Techniques, Preservation and Discharge Measurements (Field Visit)	Dr. C. K. Jain Dr. Pradeep Kumar
1500 ï 1600	Sampling Techniques, Preservation and Discharge Measurements (Field Visit)	Dr. C. K. Jain Dr. Pradeep Kumar
1600 ï 1630	Tea	-
1630 ï 1730	Sampling Techniques, Preservation and Discharge Measurements (Field Visit)	Dr. C. K. Jain Sri. Rakesh Goyal
12th February 2019		
0930 ï 1030	Non Point Source Pollution	Dr. C. K. Jain
1030 ï 1130	Non Point Source Pollution (Case Studies of River Kali and Ganga)	Dr. C. K. Jain
1130 ï 1200	Tea	
1200 ï 1300	Ground Water Quality Monitoring and Assessment with a Case Study of Metropolitan City of Meerut	Dr. C. K. Jain
1300 ï 1400	Lunch	-
1400 ï 1500	Ground Water Quality Monitoring and Assessment (Computer Session)	Dr. C. K. Jain Smt. Babita Sharma
1500 ï 1600	Application of RS and GIS in Water Quality Assessment	Dr. Sanjay K. Jain
1600 ï 1630	Tea	-
1630 ï 1730	Application of Nuclear Techniques in Water Quality Assessment	Dr. Sudhir Kumar
13th February 2019		
0930 ï 1030	Water Quality Analysis - Laboratory Session	Dr. C. K. Jain Smt. Babita Sharma
1030 ï 1130	Water Quality Analysis - Laboratory Session	Dr. C. K. Jain Sri. Rakesh Goyal

1130 ï 1200	Tea	-
1200 ï 1300	Visit to Institute Instrumentation Centre (IIC)	Dr. Bhupender Singh Dr. C. K. Jain
1300 ï 1400	Lunch	-
1400 ï 1500	Quality Assurance / Quality Control in Water Quality Monitoring and Analysis	Dr. Dinesh Mohan
1500 ï 1600	Uncertainty Analysis and its Incorporation in Water Quality	Dr. Dinesh Mohan
1600 ï 1630	Valedictory	-
1630 ï 1700	Valedictory Tea	-

The training programme was designed to be practical with lectures followed by laboratory / computer sessions to provide skills, encourage participation and exchange of information. The training programme had both theoretical as well as hands-on sessions on the subject. This will help the participants to develop their own laboratory system to broaden the scope of monitoring and measurements.

The training programme will go a long way in forging the informal network amongst all the officers who have spent the 3 days together and this will in-turn help them in further improving the quality of such investigation in their respective organizations.

FIELD VISIT

A short field visit to Ganga Canal was also arranged in the after-noon of 11th February 2019 for discharge measurements using ADCP and Flow Tracker.

FACULTY

The experts from NIH, IITR and JNU were selected to provide their inputs in the form of lectures, laboratory session and hands on training for synergizing the principles with practices. The details of the faculty are given below:

i) Dr. Sharad K. Jain, Director, National Institute of Hydrology, Roorkee ï 247 667 (Email: s_k_jain@yahoo.com)

ii) Dr. C. K. Jain, Scientist óGô & Head, Environmental Hydrology Division, National Institute of Hydrology, Roorkee ï 247 667 (Email: ckj_1959@yahoo.co.in)

iii) Dr. Sudhir Kumar, Scientist óGô & Head, Hydrological Investigations Division, National Institute of Hydrology, Roorkee ï 247 667 (sudhir.nih@gmail.com)

iv) Dr. Sanjay K. Jain, Scientist óGô & Head, Water Resources Systems Division, National Institute of Hydrology, Roorkee ï 247 667 (Email: sanjay.nih@gmail.com)

v) Dr. Dinesh Mohan, Professor, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi ï 110 067 (Email: dm_1967@hotmail.com)

vi) Dr. Pradeep Kumar, Scientist óCô, Environmental Hydrology Division, National Institute of Hydrology, Roorkee ï 247 667 (Email: pradeep.nihr@gov.in)

vii) Dr. Bhupender Singh, Scientific officer, Institute Instrumentation Centre, Indian Institute of Technology, Roorkee ï 247 667 (Email: bsingh.sic@iitr.ac.in)

COURSE MATERIAL

The lecture notes (including presentations) provided by the subjects experts were compiled and distributed to all the participants in hard as well as soft copy on pen drive. The course material and presentations would be of great significance and useful to understand the basic concepts of water quality monitoring, data interpretation and quality assurance.

PARTICIPATION

The Training Programme was intended for officials engaged in water quality monitoring and assessment. Nominations were invited from various target groups. Twenty one participants from Central and State agencies attended the Training Programme. The list of participants who attended the Training Programme is given in Annex ï I.

VALEDICTORY FUNCTION

Towards the end of the training programme, a Valedictory Function was organized on 13th February 2019 at 4.00 PM in the Society Room of the Institute. Dr. N. C. Ghosh, Sc. ÓGô and Director-in-Charge, NIH, Roorkee presided over the Valedictory Function. Dr. C. K. Jain, Sc. ÓGô & Head, Environmental Hydrology Division and Coordinator of the Training Programme welcomed all the participants and scientists present in the function and presented the summary of the training programme. He then invited participants to give their views and any further suggestions regarding the training programme. Some of the participants expressed their views about the training programme. Most of them felt that the Training Programme was very well organized and covered important topics and it was very informative and valuable for updating the knowledge with recent technological advancements taken place in the field of water quality monitoring, data interpretation and quality assurance.

Dr. N. C. Ghosh, Director-in-Charge of the Institute, in his valedictory address emphasized the importance of such training programmes for updating the scientists and officers with recent technological advancements. He also stressed the need for quality assurance, quality control and uncertainty measurements in water quality data. Certificates were also distributed to the participants by the Director-in-Charge. In the end, he congratulated the participants for successfully completing the training programme and wished a safe journey back home and all the success in their future endeavors.

FEEDBACK FROM PARTICIPANTS

Feedback from the participants was obtained to evaluate the performance of the Training Programme. The organization and management of the Training Programme was appreciated by the participants. Most of them felt that the Training Programme was very well organized and covered almost all the important and relevant topics and it was very useful for updating the knowledge with recent technological advancements taken place in the field of water quality monitoring. Some participants also suggested that such programmes may be organized for longer duration with more emphasis on hands on practice and in-situ measurements of water quality parameters.

Annex – I

List of Participants

Residential Training Programme
on
Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance

11-13 February 2019, NIH, Roorkee

S.No.	Name and Address	Contact Details
1.	Smt. A. Sri. Samyuktha, JSO ~~(Sri. Narapa Reddy, Analyst Gr-I)~~ ZO, Visakhapatnam Andhra Pradesh Pollution Control Board	Phone: Fax: Email: samyusharma@gmail.com Mobile: 91773-03326
2.	Sri. Ajay Singh Assistant Environmental Engineer Haryana State Pollution Control Board Regional Office, Bahadurgarh	Phone: Fax: Email: ajaymalik326@gmail.com Mobile: 98128-39988
3.	Sri. D. Diwakar, EO - Head Office Karnataka State Pollution Control Board Parisara Bhavana, 1st to 5th Floor, # 49, Church Street, Bengaluru ï 560 001 (Karnataka)	Phone: Fax: Email: Mobile: 98456-52169
4.	Sri. R. Padmanabhan, EO - Head Office ~~(Smt. Pallavi, AEO, RO-Mandya)~~ Karnataka State Pollution Control Board Parisara Bhavana, 1st to 5th Floor, # 49, Church Street, Bengaluru ï 560 001	Phone: Fax: Email: pallaviathreyas.19@gmail.com Mobile: 98453-91271
5.	Smt. Anitha Koyan Environmental Engineer Kerala State Pollution Control Board District Office, Kannur (Kerala)	Phone: Fax: Email: anitakoyan@gmail.com Mobile: 94479-75740
6.	Sri. Baldev Singh Thakur, Chemist M.P. State Pollution Control Board Regional Office, Sagar	Phone: Fax: Email: ropcb-sagar@mp.gov.in Mobile: 99931-88952
7.	Sri. B. N. Sangale Jr. Scientific Officer Maharashtra State Pollution Control Board Regional Laboratory, Chandrapur	Phone: Fax: Email: sochandrapurlab@mpcb.gov.in Mobile: 82082-43705
8.	Sri. A. Lyngdoh, JSA Meghalaya State Pollution Control Board ARDEN, Lumpyngngad Shillong ï 793 014 (Meghalaya)	Phone: Fax: Email: megspcb@rediffmail.com Mobile: 98630-22408

9.	Sri. Shyamghan Pradhan Asst. Env. Scientist, Central Laboratory State Pollution control Board, Odisha Paribesh Bhawan, A/118, Nilakantha Ngar, Unit ï III, Bhubaneshwar ï 751 012 (Odisha)	Phone: Fax: Email: sgpradhan@gmail.com Mobile: 94379-14509 / 94388-83896
10.	Sri. Jitesh N. Vyas, Scientist ðBô Central Water and Power Research Station, Khadakwasla, Pune ï 411 024 (Maharashtra)	Phone: 020-24103378 Fax: 020-24381004 Email: jiteshvyas@rediffmail.com Mobile: 90968-57222.
11.	Sri. M. V. S. R. Krishna Murthy, Assistant Chemist State Level Water Testing Laboratory Rural Water Supply & Sanitation Deptt. 2nd Floor, ñCò Block, Vasudha Shelters, LIC Colony, Gollapudi Vijaywada ï 521 225 (Andhra Pradesh)	Phone: Fax: Email: mudigonda63@gmail.com Mobile: 9441927929 / 9100120562
12.	Sri. K. S. Rana Sc. ðBô CGWB, WCR, Ahmadabad	Phone: 079-25320476 Fax: Email: rdwcr-cgwb@nic.in Mobile: 95581-45719
13.	Smt. Alka Srivastava Sr. Scientific Assistant IPC-V, CPCB Head Office, Delhi	Phone: Fax: Email: alkadelhi09@gmail.com Mobile: 98112-93828
14.	Sri. Mujeeb A. Ansari Jr. Laboratory Assistant ITD, CPCB Head Office, Delhi	Phone: Fax: Email: mujeeb.cpcb@gov.in Mobile: 80776-44767
15.	Ms. Sahrish Naqvi, Lab. Assistant, Head Office, U.P. Pollution Control Board T.C. 12V, Vibhuti Khand Lucknow ï 226 010 (U.P.)	Phone: Fax: Email: Mobile: 78398-91566
16.	Sri. Ashish Shukla, Lab. Assistant, Regional Office, U.P. Pollution Control Board 5243, Phase-3, Sadbhawna Nagar Kalyanpur, Kanpur ï 208 001 (U.P.)	Phone: Fax: Email: Mobile: 78398-91905
17.	Sri. Prem Sagar Uniyal Scientific Assistant, Water Quality Lab. Irrigation Research Institute Roorkee ï 247 667 (Uttarakhand)	Phone: Fax: Email: psuniyal355@gmail.com Mobile: 90125-60125
18.	Ms. Richa Kanojia (Env. Analyst) Chandigarh Pollution Testing Laboratory E-126, Phase-VII, Industrial Area Mohali ï 160 055 (Punjab)	Phone: Fax: Email: rchknj@gmail.com Mobile: 78383-36323

19.	Dr. Shakti Prakash Environmental Specialist 401/1, CDE, Budh Vihar Munirka, New Delhi ï 110 067	Phone: Fax: Email: envshaktiprakash@gmail.com Mobile: 95829-70378
20.	Sri. T. Vijay, Scientist óBô Deltaic Regional Centre National Institute of Hydrology Kakinada (Andhra Pradesh)	Phone: Fax: Email: vijay_teeparthi@yahoo.co.in Mobile: 98484-65280
21.	Sri. Nihar Ranjan Bahera Research Associate RMOD NIH, Roorkee	Phone: Fax: Email: niharbehera85@gmail.com Mobile: 80172-02940

Dr. C. K. Jain, Sc. 'G' and Programme Coordinator addressing participants of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance, 11-13 Feb. 2019, Roorkee

Participants of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance 11-13 Feb. 2019, Roorkee

Participants of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance 11-13 Feb. 2019, Roorkee

Dr. N. C. Ghosh, Sc. 'G' and Director-in-Charge addressing participants of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance, 11-13 Feb. 2019, Roorkee

Participants in the Valedictory Function of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance, 11-13 Feb. 2019, Roorkee

Participant Receiving Certificate of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance 11-13 Feb. 2019, Roorkee

Participant Receiving Certificate of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance 11-13 Feb. 2019, Roorkee

Group Photograph of the Training Programme on Water Quality Monitoring of Surface, Ground, Waste Water / Effluent, Data Interpretation and Quality Assurance 11-13 Feb. 2019, Roorkee