

Sep 2016

Coca-Cola Department of Regional Water Studies

Progress report
July 1- Sep 30 2016



Highlights

1. Academic

- a. **Graduating batch:** The first batch of M.Sc/M.Tech Water Science and Governance students passed out on 15 Jul 2016. The batch had 08 M.Sc students and 11 M.Tech students. The convocation ceremony for these students shall be held on 04 November 2016 . The final placement status of the students as of date is as follows:

S.no.	Name of the student	Placement Status
1	Akash Purohit	Not interested in immediate placement
2	Anurag Prakash	Intern with NIUA
3	Deepali Goyal	Vaykti Vikas Kendra
4	Manas Awasthi	Not Placed
5	Mohd Zeeshan	Project Assistant, TERI
6	Praveenkumar Subramani	Dhan Foundation
7	Priyank Jain	Intern, G.E Water
8	Qazi Syed Wamiq Ali	Research Associate, Babasaheb Bhimrao Ambedkar University (A Central University)
9	Rajesh Ramamoorthy	Citizen consumer and civic Action Group (CAG)
10	Ruchika Satish	Trainee, GE Water
11	Vishal Singh	Project Assistant, TERI
12	Aparna Gupta	Project Coordinator, NIUA
13	Bedashree Choudhury	Navjyoti Foundation
14	Himanshi Gupta	Not interested in immediate placement
15	Niyati Seth	Project Assistant, TERI
16	Pallavi Kharbanda	CSE
17	Prapti Verma	Intern, GE Water
18	Sakshi Chawla	Solidaridad
19	Shoobhangi Tyagi	Global Hydrogeological Solutions GHS

b. Admissions – 2016-2018

Total number – 18

M.Tech- 08; M.Sc – 09; Certificate - 01

3. Events, Workshops, Seminars, Meetings

a. **School University Network (SUN):** The Coca Cola Department of Regional Water Studies at TERI University organized two water awareness and sensitization programmes for school children under School University Network (SUN) programme institutionalized by TERI University on 19 Aug 2016 and 18 Sep 2016. As part of this programme students from Loreto Convent Delhi and teachers and students from across India who were in Delhi for the JPIC (Justice, Peace, Integrity of Community) meet 2016 visited TERI University and learnt about different aspects of water sustainability over two hours of highly interactive activity-based session. The event was highly appreciated by the participants. At the end of the session, the students were assigned projects on water use efficiency, water conservation, water treatment and economic and social aspects of water revolving around the Sustainable Development Goals (SDGs).



b. **Mini BLISS (Building Learning in Sustainability Science) :** TERI University, New Delhi and the United Nations Environment Programme (UNEP) have signed an agreement under the European Union funded SWITCH-Asia Programme to enhance learning on Sustainable Consumption and Production (SCP). As part of this initiative, TERI University is organizing a series of Mini-BLISS (Building Learning in Sustainability Science) Schools to impart learning on sustainable development and SCP in government schools in India to children from low-income areas. The objective of the Schools is to create awareness and sensitize the higher secondary school students with challenges around sustainable development. Mini-BLISS Schools shall be conducted for 30 Government schools at TERI University campuses in



Delhi and Hyderabad with expected participation of 900 students and teachers. The Coca Cola Department of Regional Water Studies is actively contributing towards this school.

- c. **Meeting with the delegation from the University of Virginia on 19 July 2016:** A meeting with Prof Rana Ganguly Director, Sponsored Research Development, College and Graduate School of Arts and Sciences, University of Virginia (UVA) and his team was held on 19 July 2016. UVA is working on the research project on “Re-Centering Delhi” that focuses on the repair of the fractured relationship between the Indian capital city and the Yamuna River since 2013. They were delighted to note the synergies and complementarities in research foci and education programs between two universities and expressed interest in future cooperation in research, exchange of faculty and students and developing collaborative programs in the areas of mutual interest.
- d. **Webinar on “Water Quality Modeling of Anaerobic Rivers” Prof Wu Seng, Department of Civil & Environmental Engineering, University of Virginia on 23 August, 2016:** Prof Wu Seng, from the University of Virginia delivered a lecture on water quality modeling of natural water systems and anaerobic rivers. He highlighted the importance of understanding how governing equations in water quality model are applied to study multiple parameters patterns like eutrophication, toxic substances, fecal coliforms and temperature of discharge water. He explained how water quality models study the impact of current and projected land use changes (stress) on the water quality in a watershed. He stressed the importance of carrying out these studies for polluted river basins of India like the Ganges and Yamuna. Students of department of regional water studies and department of natural resources attended the lecture and actively participated in the discussion later.
- e. **Guest talk on “Managed Aquifer Recharge by Small-diameter Wells and Thermal Modelling of Shallow Aquifers” by Dr. Ing. Falk Haendel, Institute for Groundwater Management, TU Dresden, Helmholtz-Centre for Environmental Research (UFZ), Germany on 05 Sep 2016:** Groundwater resources are subject to an increasing use and in many regions of the world they are the main source for drinking water. An overexploitation of these resources may lead to declining groundwater levels and to possible negative impacts on environment and a sustainable water supply. To support a better quantitative groundwater management in these regions, “Managed Aquifer Recharge” (MAR) has been proposed, e.g. to store temporarily available water during

periods where water is abundant or low in demand (Pyne 1995). Besides this, it can also be used to enhance water quality, e.g. to reduce nitrate concentrations in drinking water wells by intermixing of different waters (Händel et al. 2016) or by taking advantage of the sub surface's capability for self-purification (Vandenbohede et al. 2008). To broaden the availability of MAR to water communities worldwide and to support the selection of appropriate MAR techniques (e.g. basin, trenches or wells) a new recharge technique applying small diameter wells has been introduced. These wells can be installed with the mobile and flexible.



- f. Guest talk on “Selected applications of variable-density flow and transport” by J Prof. Dr. Marc Walther, Institute for Groundwater Management Technical University Dresden, Germany on 05 Sep 2016:** Numerical modelling has become a general standard for evaluating past, current or future system states for a large number of applications supporting decision makers, in order to ensure the correct representation of the investigated processes and results of a simulation, verification examples (benchmarks), that are based on observation data or analytical solutions, are utilized to evaluate the numerical modelling tools. In many parts of the world, groundwater is an important resource for freshwater, it is not only limited in quantity, subsurface water bodies are often in danger of contamination from various natural or anthropogenic sources. Especially in arid regions, marine saltwater intrusion poses a major threat to groundwater aquifers, which mostly are the exclusive source of freshwater in these dry climates. Density-driven flow and mass transport have been considered as vital processes in the ground water system and in scenario simulations for fresh-saltwater interactions. With the growing world population and increasing pressure on non-renewable resources, intelligent management strategies will be become very crucial in solving groundwater contamination problems. Students highly appreciated this interesting session on latest research in groundwater management

g. Guest Talk by Professor David Grey, Visiting Professor of Water Policy, School of Geography and Environment, University of Oxford, UK on 14 Sep 2016: Prof

David, who was in Delhi to attend the International River Symposium between 12-14 Nov 2016 was kind enough to accept our invite and deliver a talk on “Turbulent waters: managing international rivers”. He spoke about the issues around trans-boundary water sharing of Himalayan Rivers. He emphasized that the water sharing across international borders need not only be a cause of tension but can also be a catalyst for cooperation.



h. Breakfast Meeting with delegates from University of Queensland, Australia on 15 Sep 2016:

A breakfast meeting was held on 15 Sep 2016 with Dr Nina Hall and Dr Eva Abal, from Sustainable Water, Global Change Institute, University of Queensland, Australia and Mr Partha Susarla, Strategic Planning Manager, Unitywater, Australia. Various opportunities through which the two institutes could develop collaborations in



water and wastewater management was discussed. They also gave a brief talk to the students on “Water Security through total Water Cycle Management: Focus on Waste Water treatment and Sanitation”.

i. Interactive Session on Hoover Dam Project of USA by Dr. Sarvesh Swarup, Ex-Dy. Director General of Ministry of Commerce & Industry, Government of India on 21 Sep 2016:

Dr. Swarup, discussed his experiences in project management from various parts of the world. He described the challenges in constructing the Farakka Barrage on river Ganges and how they were overcome. He discussed the Hoover dam project in detail, that not only the construction of the dam but maintenance of the dam is also a challenge. Since the dam is ageing, measures taken in controlling the process of

ageing may be applied to other large structures elsewhere in the world. He shared his experience of working in World Bank aided projects, nature of safe guards that World Bank generally expects the project team to take were highlighted by him. Students from department of regional water department and department of urban development & management attended interactive session and gave a positive feedback about the session.

j. India Sanitation Coalition training on Decoding CSR for Sanitation and Task Force II - Collection & Dissemination of Best Practices Meeting on 27 Sep

2006: The India Sanitation Coalition (ISC) along with PwC hosted a half-day event on 'Decoding CSR for Sanitation' at TERI University in New Delhi on 27th September 2016, bringing together more than 30 development partners. The interactive session touched upon the understanding of Corporate Social



Responsibility, its evolution, international references, and drivers for indulgence and how a corporation may not use it as a surrogate sales technique. This training programme was followed by the Task Force II - Collection & Dissemination of Best Practices Meeting.

Publications

- Ghosh, Ruchira and Kansal, Arun. 2016. Greenhouse gas implications of municipal solid waste management options for developing countries. In *Urban Crisis in India: New Initiatives in safe water and waste management*. Cambridge Scholars Publishing, United Kingdom. (in press)
- Singh, P., Kansal, A., *Energy and GHG accounting for wastewater infrastructure*, Resource, Conservation and Recycling, (2016), In Press
<http://dx.doi.org/10.1016/j.resconrec.2016.07.014>