

December 2014

Progress report of Coca-Cola Department of Regional Water Studies

Progress report
April 1- November 30, 2014



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1. Highlights

- The Coca-Cola Department of Regional Water Studies was launched on May 7, 2014.
- Started Multi-track program in Water Science and Governance from July, 2014.
- Student Application: admission ratio of 4:1 achieved.
- Faculty recruited and staff of the Department expanded.
- Networking with other organizations, collaborative research and action projects initiated.
- Exposure opportunities given to students.
- Panel discussion on ‘Cleaning of Indian rivers- design of participative approaches’ held on October 7, 2014 in the presence of Union Minister for Water Resources, River Development and Ganga Rejuvenation Ms Uma Bharti.

2. Inception of the Coca-Cola Department of Regional Water Studies

TERI University proposed to set-up a *Coca-Cola Department of Water Resource Management* in its proposal for grant from Coca-Cola foundation in February 2014. Towards this objective, the TERI University started a wide consultative process to design a holistic programme and to identify areas of focus for skills development in water resources management. This included academic and research institutions, NGOs and grass-root organizations, consultancy organisations, and government bodies from India, Pakistan, Nepal, Bhutan, Bangladesh, Netherlands and Australia. The major outcomes of this consultative process included suggestions on - the naming of the Department, title of the degree program, program objectives, eligibility criteria, resource requirements and partnership opportunities. In order to resonate the needs of developing countries and to provide opportunities to a wider section of students both from developing countries and for mid-career professionals, it was decided to name the Department as the *Coca-Cola Department of Regional Water Studies* and to start a multi-track program on ‘*Water Science and Governance*’. The Department was formally launched on May 7, 2014 with an event at the TERI University which had participation of NGOs, academia and media in addition to personnel from Coca-Cola, TERI and TERI University. A brief of the media coverage of the event is summarized in Table 1.



Table 1. Media coverage of the launch of the Department

S. No.	Date	Media	Link	Brief Description of Coverage/Heading
1	06th May 2014	India Education Diary	http://indiaeducationdiary.in/Shownews.asp?newsid=29174	TERI University's Department of Regional Water Studies supported by Coca-Cola, aims to create new knowledge and capacity in water-related issues. It will examine water issues in an interdisciplinary framework towards a holistic approach in water management. The Department will offer a multi-track programme on Water Science and Governance
2	07th May 2014	Mizo News	http://www.mizonews.net/nation/a-course-on-water-management-by-teri-coca-cola/#ixzz31BwFcYbN	To develop a "globally competitive" cadre of young water management professionals, Coca-Cola and the TERI University have set up an academic Department which offers courses in conserving, managing and efficiently utilizing the country's water resources. The programme aims to safeguard water as a resource and educate students and working professionals in the field of scientific planning, utilizing modern techniques and analytical capabilities and with innovative projects for water management.
3	07th May 2014	Business Standard	http://www.business-standard.com/article/news-ians/a-course-on-water-management-by-teri-coca-cola-114050701105_1.html	The 'Coca-Cola Department of Regional Water Studies,' set up by Coca-Cola and the TERI University is an investment with a vision for the future. India needs to build the capacity to conserve, manage and efficiently utilize all its available water resources, including in the remotest parts of the country and across boundaries.
4	07th May 2014	India Education Diary	--	Coca-Cola and the TERI University have set up an academic Department to respond to needs of creating knowledge and capacity in water related issues. Some of the core courses that will be offered include courses on water law and policy, water quality monitoring and assessment, water and sustainability science, water planning and management as well as water economics and financial management to water disasters: management and planning. Depending on the candidate's area of study and degree type, specified

S. No.	Date	Media	Link	Brief Description of Coverage/Heading
				courses that will be offered include courses on applied hydrology, industrial pollution control, water audit and demand management, wetland conservation and management, integrated watershed and river basin management
5	07th May 2014	Business World	http://www.businessworld.in/news/business/infrastructure/tata-housing-launches-luxurious-project-in-kolkata/1354170/page-1.html	TERI University has joined hands with The Coca-Cola Foundation to launch the 'Coca-Cola Department of Regional Water Studies'. Dr Leena Srivastava, Vice-Chancellor of TERI University and Asim Parekh, Vice President, Technical and Supply Chain, Coca-Cola India and South West Asia launched the program at the TERI University Campus, Vasant Kunj, and New Delhi.
6	08th May 2014	Siliconindia .com	http://www.siliconindia.com/mba/news/A-course-on-water-management-by-TERI-CocaCola-nnid-1288.html	The 'Coca-Cola Department of Regional Water Studies,' inaugurated by the TERI University will respond to the needs of creating new knowledge and capacity in water related issues towards a better, holistic approach to water management.
7	12th May 2014	The Times of India (Education Times)	http://timesofindia.indiatimes.com/home/education/news/Water-studies/articleshow/34998953.cms	TERI University has joined hands with the Coca-Cola Foundation to launch the Department of regional water studies. The courses are job-oriented, need-based, and will facilitate systematic amalgamation of widespread knowledge related to water under a common platform, which, in turn, will foster learning through an interdisciplinary approach. The Department will act as a centre for integrative, assimilative and inclusive knowledge creation. The Department would help strengthen regional cooperation around water resources by establishing networks of water management professionals within the SAARC region and beyond, says Arun Kansal, Professor and Head, Coca-Cola Department of Regional Water Studies, TERI University.
8	16th May 2014	Curriculum Magazine Vol. 4 (6)	http://www.curriculum-magazine.com/document/May%2014.pdf	TERI University has joined hands with The Coca-Cola Foundation to launch the 'Coca-Cola Department of Regional Water Studies'. It will examine water issues in an interdisciplinary framework, bringing in cultural, educational and scientific factors as well as religious, ethical, social, political, legal, institutional and economic dimensions towards a better, holistic approach to water management.
9	14 July 2014	India Today, Aspire, p-18-19; July 2014	http://indiatoday.intoday.in/story/water-world-aspire/1/369814.html	TERI University, in association with the Coca Cola Foundation, has launched the Coca-Cola Department of Regional Water Studies. It aims to develop a cadre of young professionals who can scientifically manage water resources with new technology and can influence policy decisions. The courses offered on water law and policy, water quality monitoring and assessment, water and sustainability science, water planning and management as well as water economics and financial management to

S. No.	Date	Media	Link	Brief Description of Coverage/Heading
				water disasters: management and planning.
10	20 Jul 2014	The Daily Star	http://www.thedailystar.net/business/coca-cola-teri-university-fund-water-management-schooling-in-india-34023	Beverage giant Coca-Cola has established a Department on water studies at India's TERI University in a bid to tackle the challenges regarding water sustainability. The Department will provide M.Tech. M.Sc., post-graduate diploma, PhD and a certificate course. These will provide the right skill set to address all the issues regarding freshwater and bring together the government, business and civil society with academia.

3. Multi-track programme in Water Science and Governance

Besides its doctoral program, the Department offers M.Tech; M.Sc; PG Diploma; PG Certificate in *Water Science and Governance*. The format of the entire programme has been kept flexible so as to provide opportunities to fresh graduates as well as working professionals to upgrade their qualifications. The curriculum structure has been devised in such a manner that students get exposure to different traditional and contemporary aspects related to water and emerging trends and enable them to develop insights to assess critical scenarios in the water sector. Graduates, depending on their qualifying degree have an option to directly go for the two-year post-graduate degree programme; or they can opt for a Certificate course, which can be obtained by successfully completing all core courses offered in the first semester. They could obtain a postgraduate diploma (PGD) by completing the first two semesters (one year); they could obtain the M.Tech or M.Sc degree on completing the field work and research component which is spread in the subsequent two semesters (second year).

3.1 Curriculum

The consultation, design and review of curriculum of the programme were started much before the start of the programme. On May 29, 2014 first Board of Studies (BoS) meeting of the Department was held and the curriculum was comprehensively reviewed. The curriculum was finally approved by the Academic Council of the University in its meeting held on June 23, 2014. **Annexure I** give the outline of the programme. It can be seen that the curriculum moves beyond the engineering focus on water management to a holistic, interdisciplinary and multi-dimensional approach to water and will help to instill sensitivity among water professionals towards issues of *access, equity and gender sensitiveness*.

3.2 Publicity of the programme

Media coverage of the May 7 event helped in getting initial public attention, and the programme was aggressively disseminated through social media, display of posters, interaction with students in colleges etc. Figure 1 illustrates some posters displayed in various colleges in India.

3.3 Student applications

The Department received a total of 83 applications. Of these, 6 applications were from students from outside India (Asia and Africa). After initial screening, only 61 applicants were found to be eligible for interview call. The selection criteria for admission and the details of eligible candidates are provided in **Annexure II**. Interviews for admissions were held on June 30, 2014. For PhD, the Department received 5 applications. The selection criteria and the details of the candidates are given in **Annexure III**. Final list of candidates currently enrolled with the Department is given in Table 2.



Mumbai



Hyderabad

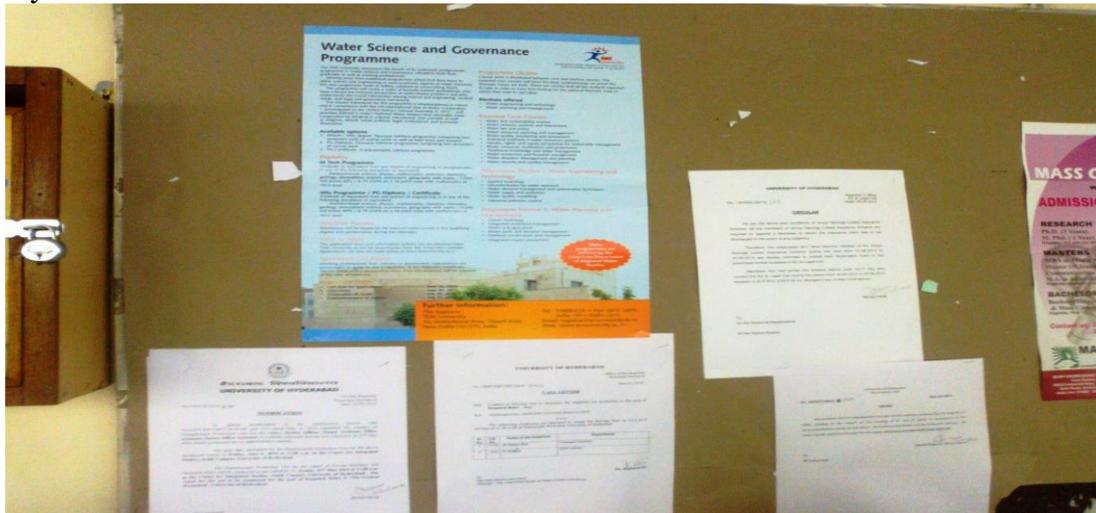


Figure 1 Display of posters in college notice boards

Table 2. List of students enrolled with the Department for the Academic Year 2014

S. No	Name	Gender	Programme	Place of Residence
1	Akash Purohit	Male	M.Tech	Himachal Pradesh
2	Anurag Prakash	Male	M.Tech	Patna,Bihar
3	Deepali Goyal	Female	M.Tech	LUDHIANA, Punjab
4	Manas Awasthi	Male	M.Tech	LUCKNOW, UP
5	Mohd Zeeshan	Male	M.Tech	Delhi
6	Praveen Kumar Subramani	Male	M.Tech	Erode, Tamil Nadu
7	Priyank Jain	Male	M.Tech	Bangalore
8	Qazisyed Ali	Male	M.Tech	Kanpur , UP
9	Rajesh Ramamoorthy	Male	M.Tech	Bangalore
10	Ruchika Satish	Female	M.Tech	Bangalore
11	Vishal Singh	Male	M.Tech	Ghazipur, UP
12	Aparna Gupta	Female	M.Sc.	Delhi
13	Apoorva Datt	Female	M.Sc.	Delhi
14	Himanshi Gupta	Female	M.Sc.	Delhi
15	Niyati Seth	Female	M.Sc.	Delhi
16	Pallavi Kharbanda	Female	M.Sc.	Delhi
17	Prapti Verma	Female	M.Sc.	Delhi
18	Sakshi Chawla	Female	M.Sc.	Delhi
19	Shoobhangi Tyagi	Female	M.Sc.	GHAZIABAD , UP
20	Bedashree Choudhury	Female	M.Sc.	Dhubri, Assam
21	Madhuri Nanda	Female	PhD	Faridabad, Haryana

4. Faculty and staff strength

The Department has two professors, one assistant professor, one lecturer and one technical assistant on its rolls. In addition to this, the Department has pooled faculty resources from other Department and Universities for the purpose of teaching. Table 3 and 4 provide details of full time staff and associated faculty respectively.

Table 3. Staff of the Department

S.No.	Name	Designation	Key area of expertise
1	Dr Arun Kansal	Professor and Head of Department	Water treatment technologies
2	Dr Prateek Sharma	Professor	Hydrology and Modeling
3	Dr Chander Singh	Assistant Professor	Water quality management
4	Ms Ranjana Ray Chaudhury	Lecturer	Hydrology
5	Mr Shashank Pandey	Technical Assistant	Water monitoring
6	Ms Trisha Kiran	Secretarial Assistant	--

Table 4. Associated faculty of the Department

S.No.	Name	Designation	Key area of expertise
1	Mr M V Shiju	Lecturer, TERI University	Environmental Law
2	Mr Sujith Koonan	Practicing professional	Environmental law
3	Dr. Vishal Narayan	Associate Professor, MDI	Water governance and Policy
4	Dr K Subramanyam	Professor Emeritus, JNU	Water Resources
5	Dr Sudipta Chatterjee	Associate Professor, TERI Uni	Wetlands
6	Dr P Pawar	Fellow, TERI	Agriculture
7	Dr Shresth Tyal	Fellow, TERI	Glacier hydrology
8	Ms Divya Datta	Associate Fellow, TERI	Economics

5. Research projects and funding

The Department has been making efforts to start research and projects which will not only help student and faculty member's academic growth, but will also help in the growth and visibility of the Department and build-up of knowledge capital. Focus is also on partnership building and collaborative research. Table 5 gives a brief on the collaborative funded projects.

Table 5. List of funded projects in the Department

S.No.	Title of the project	Collaborating Partners	Duration of the project	Remarks
1.	Socio-ecological metabolism study for urban water planning: a case study of Delhi	University of Toronto, Canada	One year	Funded by Enel Foundation
2.	Strengthening water and sanitation in urban settings	TERI, Coca-Cola and some NGOs	Three years	The project sets out to reach 20 municipal schools and 2,500 students through school WASH programs, 50,000 beneficiaries in low-income settlements, and over 300 professionals through WASH governance studies.
3.	Understanding decentralized energy interventions and their success conditions in select countries of Asia – Pacific	Tongji University, China; AIT, Thailand; University of Gahdah Madha, Indonesia	One year	Funded by ProSPER.Net, Japan

List of project proposals submitted

- 1) A Multi-scalar analysis of Phosphorus in food systems in India
Submitted under AISRF call of proposals in collaboration with UTS, Australia. Result expected in January 2015.

- 2) Food-energy-water nexus and climate response in future climatic scenarios for Ganga river basin.
A collaborative work with Lund University, Sweden. Results expected in December 2014
- 3) A DBT-IC Impact proposal submitted on “A Context-Sensitive Surveillance System for Hepatitis A and E via Mobile Technologies, Cluster Detection, and Geovisualization: the case of Ahmedabad”.
Partnering institutions include Mc-Gill University, Simon Fraser University, U de Montreal, IIITD and TERI University.
- 4) A DBT-IC Impact proposal submitted on “Development of a low-cost de-fluoridating bio-sand filter”.

Partnering institutions include Mc-Gill University, CAWST and TERI University.

6. Exposure opportunities to students of the Department

6.1 Field visits for students

Students of the first semester were divided into six groups and taken out on study tours during the month of September, 2014. They visited places in India like Agra, Roorkee, Alwar, Lucknow, Jagdishpur and Mukhteswar. The objective was to give them an exposure to understand sustainability issues, challenges faced in urban, rural and natural habitats and management of natural resources. Annexure IV gives a brief on the study tours.

6.2 Participation of students in outside events

The students attended the Water Risk and Water Stewardship seminar at FICCI on 20th and 21st August, 2014. The seminar gave them insights into the field of water risk assessment tools and stewardship by experts from industries. Mr. Aseem Parekh of Coca Cola was a member of the panel discussion. He stressed about the need of having more water professionals and hence, made a special mention of the Water Science and Governance program at the TERI University. Policy framework in the field of water resources was another focus of the seminar where Central Water Commission and state government officials led the discussions.

6.3 Lectures by Visiting faculty

Dr Mansi Jasuja of Water Governance Centre, Netherlands was invited in the month of August, 2014 to deliver a lecture on water foot print to the students of the Department. She is an urban environment expert, working in the field of water resilient urban development, climate change impact and adaptation, so her lecture to the students was very informative.

Dr Greg Koch, Global Water Stewardship Director, Coca-Cola interacted and gave a lecture on *Global water stress and response: views of major water challenges, future changes, and response by a global beverage company* on November 14, 2014.



Photo: Students of Coca-Cola Department of Regional Water Studies interacting with Dr Koch

6.4 Inter-Department competition

The students of the Department organized an inter Departmental talk on “Whose Land, Whose Water’ on 12th November, 2014 in the University. There were seven participants for the event from various Departments of the University and they spoke enthusiastically on their Departmental perspectives on the issue. The talk veered towards ground water and its exploitation and the need for firm policy and strict laws in the matter. All agreed that sustainability would have to be the key for management of water resources efficiently in the future.

7. Conduct of a Panel discussion – a major event

To set the tone of the programs offered by the Department and enthuse public to the challenges of water management and the need for multi-disciplinary solutions, the Department organized a half day event on the theme “Cleaning of India’s Rivers - Design of Participatory approaches” on October 7, 2014. Successful cleaning of the river is a major urban governance challenge, and has been brought to the forefront as a national priority. The Honorable Minister for Water Resources, River Development and Ganga Rejuvenation delivered the Keynote address at this event. Invited delegates included decision makers and representatives from academic institutes, multinational organizations, policy makers, and NGOs. The event provided a platform to discuss challenges, strategies and opportunities for cleaning of rivers for sustainable water management.

Brief report of the event

“She is a symbol of India’s age old culture and civilization, ever changing, ever flowing and yet over the same Ganga.” These words prelude the short film – Ganga Diaries – produced by the film division of The Energy and Resources Institute. And, not just the film, these words form the narrative of today’s effort of Indian Government, and Indians in general, of cleaning their rivers.

The event started with the screening of the short film, Ganga Diaries, in the august presence of Sushri Uma Bharati, Minister for Water Resources, River Development and Ganga Rejuvenation, Ambassador of Netherlands; Shri Venkatesh Kini, President Coca Cola India and South-West Asia; Dr. R. K. Pachauri, Chancellor of TERI University and Director-General of TERI; Dr. Leena Shrivastava, Vice-Chancellor of TERI University, and other distinguished guests from Ministry, Coca Cola India, TERI and other reputed organizations. Dr. Leena Shrivastava in her welcome address emphasized the need of industry-academia participation, multidisciplinary approach towards learning, capacity building to respond to the emerging diverse needs and training students to become leaders of sustainable future. She gave an elaborate account of Coca-Cola and TERI-University’s collaboration in various projects including projects related to sanitation. She welcomed the Coca-Cola Department of Regional Water Studies as a step towards capacity building and creation of opportunities in the interdisciplinary study of water. She also declared the inter-university competition on Integrated Water Resource Management as an initiative for spreading awareness about conservation among students. Shri Kini expressed the Coca-Cola’s commitment towards water conservation and community development through various initiatives undertaken by Coca-Cola. He gave a brief account of what has been the achievement of Coca-Cola like reduction of water consumption per liter of beverage by 47% and projects with community participation for building water storage capacity of ten billion liters. He reaffirmed Coca-Cola’s commitment towards rejuvenation and replenishment of fresh water resources and said that Department of Regional Water Studies is a step to reinforce it in form of creating professionals who can work in water sector with interdisciplinary understanding and approach. Dr. R. K. Pachauri congratulated the TERI-U and Coca-Cola and encouraged the gathering to think about participatory approaches towards rejuvenation and management of water bodies. He quoted examples from his experiences in USA and gave an assurance that the task of cleaning and rejuvenation of rivers, which is in the priority in India currently, can be done with the participation of millions of those who live near the rivers as their livelihoods are dependent on them. The Hon’ble Minister congratulated TERI-U and Coca-Cola for their efforts. While she was speaking about river cleaning and rejuvenation, she stressed on the importance of trained and skilled professionals. She also made it clear that the ministry is committed towards participatory planning and that the role of women is of utmost importance in this whole endeavour. She expressed her concern about the environmental flow and natural ecosystem of the river. She also invited academicians, industrialists, environmentalists, activists, communities to come forward for this noble cause.

टेरी विश्व विद्यालय में शुरू हुआ जल अध्ययन विभाग

चुनौतियों से निपटने की तैयारी!

जल प्रदूषण से बड़ा खतरा

जल प्रदूषण से निपटने के लिए, जल अध्ययन विभाग का शुभारंभ हुआ। इस विभाग के माध्यम से जल प्रदूषण से निपटने के लिए जल अध्ययन विभाग का शुभारंभ हुआ।

सभ्यताओं के विकास में जल की भूमिका सर्वाच्च

उमा भारती ने दिया कुशल जल संसाधन प्रबंधन पर जोर

जल संसाधन को सुरक्षित रखने के लिए जल प्रदूषण से निपटने के लिए जल अध्ययन विभाग का शुभारंभ हुआ।

गंगा को मैला करने वालों पर कार्रवाई शुरू

गंगा नदी को मैला करने वाले लोगों पर कार्रवाई शुरू की गई।

देश में नदियों की सफाई का काम चुनौतीपूर्ण है : उमा भारती

देश में नदियों की सफाई का काम चुनौतीपूर्ण है।

तीन साल में गंगा का निर्मल स्वच्छ मानने आशा

तीन साल में गंगा का निर्मल स्वच्छ मानने आशा है।

नदीय सौंरी घाटी में परियोजना की तैयारी

नदीय सौंरी घाटी में परियोजना की तैयारी शुरू की गई।

Photo: The event captured by various print media in India

Annexure I

Coca Cola Department of Regional Water Studies

Teaching programmes and courses

Semester 1: Common for M.Tech, M.Sc., PG Diploma, and PG Certificate

S. No.	Course title	Credits (L-T-P)
1	Water and sustainability science	2 (1-1-0)
2	Water planning and management	3 (2-1-0)
3	Water Law	3 (3-0-0)
4	Water quality monitoring and assessment	3 (1-0-2)
5	Gender, Rights and Equity perspective for sustainable water management	3 (2-1-0)
6	Statistical methods in water resources	4 (3-0-1)
7	Water resources- institutions and governance	3 (2-1-0)
8	Water resource systems and interactions	5 (4-1-0)
Total		26

Semester 2: Set I Common for M.Tech, MSc and PG Diploma

S. No.	Course title	Credits (L-T-P)
1	Traditional knowledge and water management	2 (1-1-0)
2	Water economics and financial management	4 (3-1-0)
3	Water disasters: management and planning	2 (2-0-0)
4	Water security and conflict management	2 (2-0-0)
Total		10

Semester 2: Track M.Tech (Set II)

(Need to choose a minimum 19 credits; electives can be either from the programme electives or from any other programme)

S. No.	Course title	Credits (L-T-P)
Programme core		
1	Applied hydrology	4 (3-1-0)
2	Geo-informatics for water resources	4 (3-0-1)
3	Water quality modelling and applications	4 (3-0-1)
4	Water supply and sanitation	4 (3-1-0)
Programme Electives		
5	Water demand management and optimization techniques	4 (2-2-0)
6	Industrial pollution control	3 (2-1-0)

Semester 2: Track M.Sc (Set III)

(Need to choose a minimum 16 credits; electives can be either from the programme electives or from any other programme)

S. No.	Course title	Credits (L-T-P)
Programme core		
1	Wetland conservation and management	3 (2-0-1)
2	Integrated watershed and river basin management	3 (2-1-0)
3	Irrigation water management	4 (3-0-1)
4	Water audit and demand management	3 (3-0-0)
Programme Electives		
5	Glacier hydrology (Existing course)	3 (1-1-1)
6	Integrated impact assessment (Existing course)	4 (3-1-0)

Semester 3 and semester 4 is on project work and are of 16 credits each

Criteria for screening of candidates for admission to M.Tech/M.Sc./P G Diploma program on Water Science and Governance

Departmental meeting was held on June 25 to decide the criteria for selection of candidates for admission to M.Tech/M.Sc./P G Diploma programs. The criterion as explained below was decided by the members.

Table 1: Evaluation criteria for admission to M.Tech/M.Sc./P G Diploma program on Water Science and Governance

Criteria for M.Tech/M.Sc./P G Diploma	Weightage
Marks in Mathematics in class 12 th (see table 2 below)	20
Marks in Qualifying Degree (see table 1 below)	40
Experience (see table 1 below)	10
Interview	30
Total score	100

Table 2: Guidelines to be followed in assigning the marks for above mentioned criteria

%age marks in Mathematics in class 12th	Score	%age marks in qualifying Degree	Score	Experience In Years	Score
>90	20	>90	40	>5 years	10
80-90	16	80-90	35	4-5 years	7
70-80	12	70-80	30	2-4 years	5
60-70	10	60-70	25	1-2 years	3
50-60	5	50-60	20	<1 year	0
<50	0	<50	15		

Candidates having a score of 50 and more will be eligible for admission.

Annexure III

Criteria for screening of candidates for admission to PhD program

A Departmental meeting comprising of Prof. A Kansal, Prof. Prateek Sharma and Dr C K Singh was held on 1st July, 2014 to decide the criteria for PhD admissions. The committee has come up with following guidelines for PhD admissions.

Table 1: Evaluation criteria for admission to PhD program of Water Science and Governance

Criteria for PhD	Score
Written Exam	30
Marks in qualifying Degree (see table 1 below)	20
UGC/CSIR/NET/GATE	10
Experience	10
Interview	30
Total Score	100

Table 2: Guidelines to be followed in assigning marks for above mentioned criteria

%age in Qualifying Degree for PhD admission	Marks to be awarded	Experience In Years	Marks to be awarded
>90	20	>5 years	10
80-90	16	4-5 years	7
70-80	12	2-4 years	5
60-70	10	1-2 years	3
50-60	8	<1 year	0
<50	5		

Marks of qualifying exam will be considered as aggregate of all semesters. Cut-off score to qualify for admission to the PhD program will be 60.

Student field trip report

Students of the first semester were divided into six groups and taken on study tours in the month of September, 2014 to different places like Agra, Roorkee, Alwar, Lucknow, Jagdishpur and Mukhteswar in India. This was their first study tour after joining the University and the idea was to give them an exposure to sustainability issues, challenges faced in urban, rural and natural habitats and management of resources including water resources. TERI University's endeavour to attune students to technology options for betterment of life in rural habitat like rural electrification through solar lighting initiatives (part of TERI's project on lighting a billion lives) was shown to the group who visited Agra and its vicinities in a village near Mathura and Dayal Bagh Education Institute in Agra. While the group which went to Roorkee visited the National Institute of Hydrology (NIH) and they were apprised of the latest equipment in the various laboratories of NIH. They also visited a nearby village in Uttar Pradesh where the students of IIT Roorkee have commissioned biogas plant producing 4kW electricity and is used for irrigation by farmers. The student group which went to Lucknow and its vicinity visited village Panhauna in rural Uttar Pradesh which runs on solar micro grid- a part of TERI initiative to light a billion lives (LaBL mission). In another village Ashrafpur, the students experienced how the stainless steel improved biomass cook stove (TERI used forced draft technology to improve cook stove design) has improved the lives in rural habitats by improving fuel efficiency and reduced pollution. This group was also taken to Dudhwa National Park.



The student group which visited Nainital, went to the Jim Corbett National Park and Kafli, a remote hill village near Mukhteswar amongst other places. They saw working of low cost water management technologies, roof top water harvesting facilities and herbal oil distillation plant setup by TERI for villagers.



The group that visited Alwar and Jaipur in Rajasthan visited Siliserh Lake which was constructed in 1845 by the local King. this lake is still used for irrigation in adjacent areas. In addition, students visited sites which have derived benefits from water conservation structures built by Tarun Bhagat Sangh. They also visited Barefoot College in Tilonia. The Barefoot College is unique as it is completely run on solar generated electricity and has developed women self- help groups who make solar heaters and solar cookers amongst other things.



The students unanimously agreed that their study tour gave them an exposure to challenges faced in urban, rural and natural environments. They appreciated the various sustainable solution initiatives that have been taken up in various locations.