

*Coca Cola Department of  
Regional Water Studies*

*Quarterly Report-  
October-December 2017*



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advanced studies**  
**Knowledge for Sustainable Development**  
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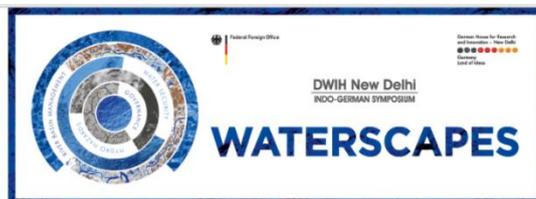
*Coca-Cola*

## Highlights

### 1. Events, Workshops, Seminars, Meetings

#### I. Indo-German Symposium:

Professor Arun Kansal, Dr. Rinki Deo and Dr. Nirupam Datta attended the **Indo-German Symposium “WaterScapes” held at the India Habitat Centre, New Delhi between October 5 and 6, 2017**. Under the auspices of the Embassy of the Federal Republic of Germany, German House for Research and Innovation (DWIH, New Delhi),



together with prominent institutions from India and Germany, organized its annual flagship symposium ‘WaterScapes’ at the India Habitat Centre, New Delhi. The symposium, aimed at promoting the awareness and disseminating the information on the water sector trends, groundbreaking research and mobilizing efforts of all parties at all levels involved in the water problems solution in Germany and in India. It was organized around four broad themes:

- **Hydro Hazards** (e.g., floods, water scarcity, water pollution, climate change leading to irregular rainfall patterns, the degradation of aquatic ecosystems, rain fed agriculture, irrigated agriculture and watershed management, etc.)
- **Urbanisation and water resource management** (e.g., waste water treatment, recycling and reuse, supply of safe and clean drinking water, drainage systems, water stress, contamination of ground and surface water, water usage efficiency, sanitation, stakeholder engagement etc.)
- **Integrated River Basin Management** (i.e., balance between economics and ecology, river basin organisations/authorities, ecological restoration and conservation of aquatic biodiversity, etc.)
- **Water Security and Governance** (e.g. trans-regional water sharing, water system governance, water diplomacy, multi-level stakeholder dialogues and negotiations)

#### II. Partnership workshop at Tribhuvan University, Nepal

Prof. Arun Kansal attended partnership workshop at Tribhuvan University, Nepal **during Oct 13-16, 2017** sponsored by Himalayan University Consortium (HUC), ICIMOD Nepal. The workshop was organized for partners of the seed grant titled **“Water Sustainability Strategies in the Himalayan cities (Bhutan, India & Nepal)”** with following key objectives:

- Assisting in reconnaissance visits between potential partners
- Understand strengths & needs of each partner and common interests
- Explore potential for collaboration in research and/or training
- Identify potential thematic areas/topics for future collaborative research and/or curriculum development

Following officials attended the workshop representing respective organisations:

- Prof Dr Madan Koirala (Tribhuvan University, Nepal)
- Prof Dr Nandu Giri (Samtse College, Bhutan)
- Prof Dr Arun Kansal (TERI University, India)
- Dr Kinzang Dorji (Samtse College, Bhutan)
- Dr Rashila Deshar (Tribhuvan University, Nepal)
- Mr Santosh Raj Pathak (partnership contract officer – Resource person, ICIMOD)

The purpose of the workshop is to establish and strengthen relationship of mutual collaboration between the partners (Samtse College, Bhutan; Teri University, India and Tribhuvan University Nepal) through a partnership principle based on synergy, equity, mutual trust, transparency and diversity. These contributions and responsibilities are mutually acknowledged and voluntarily taken by respective partners:



**a. Samtse college, Bhutan:**

- Sharing of water sustainability reports taken by the RGoB based on gross national happiness philosophy.
- Initiatives taken by the partner institutes will be documented and shared with partner countries and HUC.

**b. Teri University, India:**

- Helping sharing expertise and experience from Teri University.
- Kicking off the Discussion on water sustainability assessment for cities

**c. Tribhuvan University, Nepal**

- Sharing the experience done by CDES and other partners in Nepal regarding sustainable water use management.
- Prepare a case study based upon the ground truth scenario of Kavre district, Nepal.

### III. Release of the “State of Urban Water and Sanitation in India” Report

An event on the release of the “State of Urban Water and Sanitation in India” Report was organised at TERI University on 27<sup>th</sup> October 2017. The report emerged from a three-year (2014-2017) collaborative program



funded by the USAID and undertaken by TERI University, Coca-Cola and TERI on “Strengthening Water and Sanitation in Urban Settings of India” and encapsulates the journey India has undertaken in the urban water and sanitation sector. The report aims to be a comprehensive collection and analysis of past and current policies and programmes and provides insights into the reasons for several gaps that become apparent when the sector is viewed holistically. The extensive review of international, national, and state-level reports draws upon a rich collection of secondary literature. The report was widely covered by media subsequently.

### IV. Paper presented by Faculty and PhD Student in an International Conference

A faculty and a PhD Student of the department “Coca-Cola Department of Regional Water Studies”, presented paper in International Conference on Mountain Resources and Livelihoods in the Hindu Kush Himalayan region: Higher Education Research and Regional Collaboration for Sustainable Mountain Development, held between Oct 29-31, 2017, at Chengdu, China. The faculty, Professor Arun Kansal presented on the topic “Water metabolism and Hydrological Indicators for Sustainability Assessment.” The PhD student *Ms. Sudeshna Maya Sen* presented on the topic “Understanding the challenges of Local Water security and Its Impact on agricultural Livelihoods in the Indian Himalaya”.



## V. Annual Meeting of Himalayan University Consortium at Chengdu, China

The Department is a full-time member of Himalayan University Consortium (HUC) of ICIMOD which has 64 member Universities from various countries along Hindu Kush Himalayan Region. Prof Arun Kansal



attended its annual meeting **held at Chengdu, China on November 1, 2017**. The Department will be actively engaged in activities of water group of this consortium.

**VI.** As part of the outreach program, the department in association with CMS-Vatavaran had organised a half day workshop "Hydrological Footprint and Urban Water Sustainability Assessment" at Gandhi Smriti and Darshan Samiti (Opposite Rajghat), New Delhi on **3rd of November 2017**.



Prof. Arun Kansal and Dr. Nirupam Datta from TERI SAS and Dr. Supriya Singh from University of Delhi spoke at the workshop. The event was attended by undergraduate students from colleges and institutes from the NCR region.”.

**VII.** Dr. Rinki Deo and Dr. Nirupam Datta attended the Information & Networking Event: EU-India Call on Water held at New Delhi (Habitat Center) **on 3rd November 2017**. This event was co-organized by the Research and Innovation Section of the Delegation of the European Union to India, (EU), the Department of Science & Technology (DST) and the Department of Biotechnology (DBT), Government of India in association with the TECO project. The event targets potential applicants to the EU-India Call on Water for joint project proposals. It offers an exceptional opportunity to build



quality partnerships with academics, researchers, industrial stakeholders, SMEs and government actors from Europe and India. The aim of this event was to promote the flagship call on Water, jointly funded by EC-DST-DBT (in the order of 30 million euros). **The main challenges arisen during the scientific discussion were:**

- The opportunity for further investment in research and cooperation in the water sector
- The importance to bring together different cultures, experiences and expertise to solve common environmental problems
- The improvement of international cooperation and investment
- The need for better educational policies to make people aware about the environmental impacts caused by the uncontrolled anthropogenic activities
- The importance to improve and exploit present technologies for achieving required degree of decontamination
- The strategic role of active collaboration among scientists and policy maker

### **VIII. Convocation**

The convocation ceremony for the second batch students was held on **November 10, 2017**. The 7 students from the second batch were awarded the degrees.



### IX. AICE'17 – TOTAL WATER SOLUTIONS, 10<sup>th</sup> - 11<sup>th</sup> November 2017

Ms. Ranjana Ray Chaudhuri attended AICE'17, **American Water Work Conference at Mumbai** which was held on **11 November 2017**. The conference was designed to provide a platform for collaboration between policy makers, utilities, practicing engineers and academicians to find innovative solutions for the challenges faced by water sector, a forum for an honest dialogue which culminates in a unified, objective and sustainable vision which resonates with all the stakeholders of the Indian Water Sector.



The technical sessions ranged from Water Audit, Non-Revenue Water Reduction, Leak Detection, Smart Metering and Distribution System, Ground Water Contamination, Recycled Water- Treatment and Technologies for Potable and Non-Potable Use, Alternate Water Supply including Saline Water Treatment, to New contaminants and treatment technologies, Upgrade of Old Infrastructure – Why Construct New. The state of the art technologies, challenges in their adoption on large scale were discussed widely. Another major discussion point was that if waste water is not treated at source, it would be quite impossible to prevent ground water contamination and surface water pollution. The presentation on **treated urban waste water reuse-need of the hour** was received positively by the learned audience. The various components of the innovative components of the USAID project on urban

WASH was discussed. The possibility of adopting such solutions in other cities across the country was debated by the audience.

- X. Prof. Arun Kansal was invited as a resource person at IIT, Delhi for a workshop on ‘Water in South Asia: Impacts of Climate Change and Variability’ during **Nov 27-28, 2017**. The purpose of the workshop is to prepare an advanced draft for a project proposal with the tentative title “Water in South Asia: Impacts of Climate Change and Variability” (WASIACLIVAR).



WASIACLIVAR will delve into the hydro climatology of

the target region by looking comprehensively at water in gaseous, liquid, and solid forms and by tracking the main transport mechanisms. We will look at baseline climate conditions, climate response, and extreme events, and explore the societal impacts of variability and change of the water budget. The idea is to integrate datasets from various sources and methodology from different disciplines to have a better understanding of how to better manage water and better shield from water-related risks. Other than Prof Kansal, the workshop had participation of

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**XI. Paper presented in 7th International Ground Water Conference:** One of the students of the Department of Regional Water Studies named **Mayuri Phukan (MSc 2016-2018 batch)** presented paper in 7th International Ground Water Conference (IGWC-2017) which was held on **11-13 December 2017 in Delhi**.



The theme of conference was “*Ground water Vision 2030- Water Security, Challenges and Climate Change Adaptation*”. The conference was organized by National Institute of Hydrology (NIH), Roorkee and Central Ground Water Board (CGWB) under aegis of Union Ministry of Water Resources, River Development and Ganga Rejuvenation. The delegates from 15 countries participated in the conference and 250 research papers were presented, including 32 Keynote papers. The topic of her paper was “**Managing groundwater: A Case Study from Meghalaya**”.

**XII. Prof. Arun Kansal** Chaired a session on “**Building Resilience: Sources and Context**” at IIT Delhi in a workshop titled ‘Creating Resilient Families and Communities’ organised by IPCA, India on December 19, 2017.

**XIII. Research Article published in Elsevier Journal “International Soil and Water Conservation Research”:** One of the students of ESRM, 2017 batch named **Ms. Meeta Gupta**

who completed her M.Sc. thesis under the internal supervision of Ms. Fawzia Tarannum of our department “Coca-Cola Department of Regional Water Studies” published a research article for a *The International Soil and Water Conservation Research (ISWCR)*, the official journal of World Association of Soil and Water Conservation (WASWAC)

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Original Research Article

Designing a watershed scorecard as a performance evaluation tool for Ur River watershed, Tikamgarh District, Madhya Pradesh

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ARTICLE INFO	ABSTRACT
<p><b>Article history:</b> Received 27 April 2017 Received in revised form 3 October 2017 Accepted 13 October 2017</p> <p><b>Keywords:</b> Watershed scorecard Ur River Bundelkhand Water quality Agricultural condition</p>	<p>The study is an attempt to design a watershed scorecard by identifying and evaluating selected set of indicators, such as surface water quality, ground water quality, soil condition, agriculture condition, and forest condition, which accurately reflect the health of the watershed. Ur River watershed in Tikamgarh District, Madhya Pradesh was taken as a case study to assess the watershed health. Evaluation was done by calculating different indices for the selected set of indicators and comparing them with the National standards and guidelines. Based on the performance of each indicator, the grades were assigned to the indicators which helped in designing the watershed scorecard. The results revealed that within the watershed, the forest and soil conditions need a considerable plan for improvement in order to maintain the ecosystem whereas the surface water quality, groundwater quality and the agricultural conditions requires protection as well as enhancement in certain areas.</p> <p>© 2017 International Research and Training Center on Erosion and Sedimentation and China Water and Power Press. Production and Hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<a href="http://creativecommons.org/licenses/by-nc-nd/4.0/">http://creativecommons.org/licenses/by-nc-nd/4.0/</a>).</p>

<http://www.waswac.org>, is a multidisciplinary journal of soil and water conservation research, practice, policy, and perspectives. It aims to disseminate new knowledge and promote the practice of soil and water conservation. The detailed information and the results contained in the Watershed score card presented in this research article is shared with the District Collectorate of Tikamgarh and is expected that it will provide help to the regulatory and

legislative decision makers, planners and watershed stakeholders to understand the condition of our forests, ground-water, surfacewater, soil, and agriculture in the watershed. It is expected that this information will be useful in watershed management planning activities within the watershed. Individuals and organisations working for watershed development should also work out to achieve “A” grades in the watershed.

#### **XIV. Forthcoming Events:**

- A. Two-day Management Development Programme:** TERI SAS in association with ICE WaRM, Australia is organizing a two-day Management Development Programme during 14-15 March, 2018, at Guwahati, Assam. Gender mainstreaming has been part of the international discourse on Integrated Water Resource Management for many years. This MDP on Gender, Equity & Management is designed to develop a good conceptual and theoretical understanding of gender, rights and equity issues among participants while providing them with exposure to the practical challenges in making the water sector more gender balanced and water sensitive.
- B. A week-long training programme in association with WAPCOS:** TERI SAS in association with WAPCOS is organizing a week-long training programme during 16-22 January, 2018, at TERI SAS campus, Delhi. This training programme is on 'Water Demand and Audit Management and Integrated River Basin Planning', it is designed to enhance the skills of young engineers in the field of water auditing, flood and river training modelling, geospatial techniques and economic appraisal of water projects.
- C. Exposure visit of HUC members from Afghanistan, Bangladesh, Bhutan And Nepal to water study institutions in India in conjunction with a Meeting of HUC Members in India from January 31-Feb 2, 2018:** A proposed exposure visit of HUC member delegations from Afghanistan, Bangladesh, Bhutan, and Nepal, to be co-organized by the International Centre for Integrated Mountain Development (ICIMOD) and TERI SAS, aims at providing an opportunity for mid-/senior- career scholars in under-represented countries to interact with leading higher education and research institutions in India working on issues of water use, management, and policy. It will also be the kick-off meeting of the HUC Thematic group on Water. In conjunction to this event, there will be a one-day meeting of senior representatives of existing and prospective HUC members in India, who will discuss the draft of the HUC Strategy and Plan of Action, process to establish HUC India Chapter, and potentials for collaboration and resource sharing across the Consortium.