

January 2023

# Progress Report of Coca-Cola Department of Regional Water Studies

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January 1- December 31, 2022



## Highlights

This report gives information related to the activities of the Department carried out during January-December 2022. These activities include:

- Academic activities
  - Internships
  - Major Projects
  - Placements
  - PhD scholars graduated
- Admissions
- Certifications
- Events/Seminars/Workshops
- MoU signed
- Projects (Ongoing/Completed)
- Research Publications

## 1 Academic Activities

The campus is currently functional for all administrative purposes. All academic activities of the current semester are campus-based.

### 1.1 Internships

Many students from 2021 batch have secured internships for minor projects as follows:

Degree	Name	Organisation
MSc	Bhumika Khatreja	TERI SAS
MSc	Kalpana Patel	World Resources Institute
MSc	Karamveer Yogendrasinh Jadeja	Arid Communities & Technologies
MTech	Adeel Ahmed Siddiqui	WaterAid
MTech	Aditya Nath	National Mission for Clean Ganga
MTech	Gaurav Fouzdar	IIT Jammu
MTech	Sayyad Sahil Ahmed	Risk Management Solutions
MTech	Yukti Sharma	Delhi Pollution Control Committee
MTech	Bharg Modi	TERI
MTech	Mohammad Imroz	TERI
MTech	Chetan Narayan Malusare	Grenanzo Envirotech

### 1.2 Student Major Projects

The list of the major projects that 2020 batch students have completed is below:

Sl. No.	Student	Degree	Topic	Organisation
1	Mayank Prasher	M. Tech	Flood Modelling and Hazard Mapping of Lower Periyar River Basin	DHI (India) Water & Environment Pvt Ltd.
2	Nidhi Nitin Puranik	MTech	Characterization and Treatability of Sludge in Sewage Treatment Plant Based of Extended Aeration Process	SFC Environmental Technologies Pvt Ltd
3	Anil Kumar Maddipatla	MTech	Modelling of Usedwater Treatment in Sugar Industry and Energy Optimization of Activated Sludge Process using Matlab R2021a & NSGA II Algorithm	DHI (India) Water & Environment Pvt. Ltd.
4	Raghav Raja	MTech	Assessment of Groundwater using Analytical Hierarchy Process for Municipal Corporation of Manesar, Gurugram	GuruJal
5	Balpreet Kaur	MTech	Modelling and Simulation of Municipal Wastewater Treatment Plant using WEST software	DHI (India) Water & Environment Pvt. Ltd.
6	Kasturi Basu	MTech	Assessment of Sustainable Agricultural Practices for Growing Sugarcane in Belagavi and Kalaburagi Districts of Karnataka	Thinkthrough Consulting Pvt. Ltd.
7	Aluri Sai Vardhan	MSc	Perception study on WASH (water, sanitation and hygiene) among the selected communities of Kotagiri Taluk in the Nilgiris District of Tamil Nadu, India	Keystone Foundation
8	Dayadra Mandal	MSc	Inventory of Peatlands in India – Geospatial Mapping of Peatlands in the Miyar Basin	Wetlands International South-Asia
9	Palash Kandey	MSc	Environmental, Social and Governance (ESG) Criteria Analysis in a Water Intensive Industrial Sector	Arabesque
10	Anubhuti Shekhar	MSc	Causes and Impact of Urban Floods in Uttarakhand: A Review of Spatial Planning and Potential of Nature Based Solutions	Council on Energy, Environment and Water

Sl. No.	Student	Degree	Topic	Organisation
11	Rohit Anand	MSc	Water Resources Evaluation in Pathways to Improving the Water Availability and Quality in Waterlogged Regions of Jhajjar, Rohtak & Sonipat	TERI SAS
12	Rishi S Nair	MSc	Assessment of Climate Change risk, Impact and Adaptation Measures	Institute of Rural Management Anand (IRMA)
13	Sahil Sanjay Majmudar	MSc	Spatiotemporal Changes in the Wetlands of Vadodara: From an Urbanization Perspective	Gujarat Ecology Society
14	Manika Saxena	MSc	Understanding Gender in Waterscape and Governance in Udaipur	Development Alternatives
15	Sayan Debnath	MSc	GIS Based Multi-Criteria Analysis to Identify Potential Sites for Water Conservation Structures in a Water Stressed District of West Bengal	National Water Mission
16	Ayush Tyagi	MSc	GIS-Based study on groundwater depletion in NCR regions of Uttar Pradesh	TERI SAS
17	Shivani Jadaun	MSc	Best Available Cleaner Technologies (BACTs) Practiced to Reduce Effluent in Tanneries of Kanpur Unnao Leather Cluster	Solidaridad Asia
18	Srishti Ramnani	MSc	Carbon Pricing in Transition to Low Carbon Economy	GAIL (India) Ltd.

### 1.3 Placements

The current status of the placement for 2020 batch is shown below:

Sl.No.	Name	Program	Company	Position
1	Kasturi Basu	M Tech	BDO India LLP	Associate
2	Mayank Prasher	M Tech	IB Group	ESG Manager
3	Nidhi Puranik	M Tech	SFC Environmental Technology	Trainee Engineer
4	AnilKumar Maddipatla	M Tech	Apasol Consultants	Director
5	Raghav Raja	M Tech	Guru Jal	Consultant
6	Balpreet Kaur	M Tech	Guru Jal	Project Manager

7	Aluri Sai Vardhan	MSc	Keystone Foundation	Consultant - Community Wellbeing Programme
8	Dayadra Mandal	MSc	Wetlands International South Asia	Junior Technical Officer
9	Palash Kandey	MSc	Open to Jobs	N/A
10	Anubhuti Shekhar	MSc	CEEW	Research Intern
11	Rohit Anand	MSc	Haryana Water Resources Authority	Intern
12	Rishi S Nair	MSc	Open to Jobs	N/A
13	Sahil Sanjay Majmudar	MSc	Gujarat Ecological Society	Research Assistant
14	Manika Saxena	MSc	India Centre for Policy Research and Development	Research Associate
15	Sayan Debnath	MSc	Aspire Impact	ESG Research Analyst
16	Ayush Tyagi	MSc	Arabesque	Climate Change Data Analyst
17	Shivani Jadaun	MSc	Solidaridad	Programme Associate
18	Srishti Ramnani	MSc	GAIL (India) Limited	Project Assistant

## 2 PhD Scholars Graduated

The following research scholar has graduated from the department in 2022:

Name	Supervisor/s	Thesis Title
Neha	Prof. Arun Kansal	Assessment of reclaimed municipal wastewater use acceptance by urban residents for water sustainability: evidence from NCR, India

## 3 Admissions

In this academic session, 7 M. Sc and 2 M. Tech students have been enrolled. Also, 3 PhD scholars have joined (1 Full-time and 2 Part-time)

**M. Sc./M. Tech (2022 Batch):**

Sl. No	Program	Student Name
1	M. Sc.	Meghma Mitra
2	M. Sc.	Pratha Mishra

3	M. Sc.	Rayena Sarkar
4	M. Sc.	Rithish Ninan Alex
5	M. Sc.	Sneha Chakraborty
6	M. Sc.	Vikas Meena
7	M. Sc.	Monika Kumari
8	M. Tech	Bharat Ramachandran
9	M. Tech	Shaivya Saxena

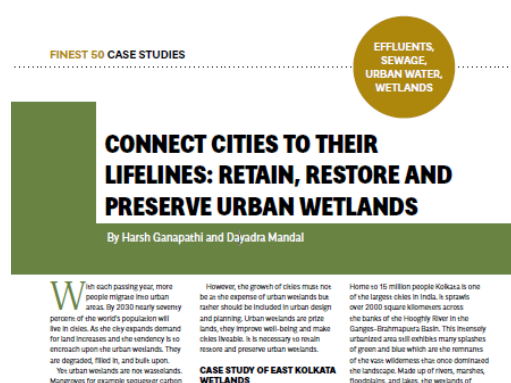
#### PhD (2022 Batch):

Sl. No.	Scholar Name	Supervisor/s
1	Shelja Alawadhi	Dr. Ranjana Ray Chaudhuri (Main Supervisor) Dr. Sudipta Chatterjee (Co-Supervisor)
2	Ananya Malik	Dr. Ranjana Ray Chaudhuri (Main Supervisor) Dr. Arnab Das (Co-Supervisor)
3	Garvit Sharma	Dr. Ranjana Ray Chaudhuri (Main Supervisor) Prof. Arun Kansal (Co-supervisor)

## 4 Special Achievements

### 4.1 Student achievements

- An article written by Ms. Dayadra Mandal (MSc, 2020 batch) and our Alumnus (Mr. Harsh Ganapathi on *Eastern Kolkata Wetlands* has been published in SWWW March-April 2022 Issue.
- Minor project thesis by Ms. Preethi Vasudevan (M Tech, 2019 batch) has been published as a book chapter in Springer Nature (available in the section 'Research Publications').
- One conference work by Ms. Mudita Upadhyay (PhD scholar, 2019 batch) has been published in the conference proceedings of SWRAM 2020 by Springer Nature (available in the section 'Research Publications').



### 4.2 Faculty achievements

- **Dr Fawzia Tarannum** has been nominated as a member of the District Water Resource Planning committee of Gurugram District of Haryana.
- **Dr. Fawzia Tarannum** has been recognised for her exemplary works in the area of SDGs. She has been selected among the 17 Change Makers in 'Women and SDGs' jointly by Sayfty Trust and Twitter India to recognize exemplary changemakers and how they are leveraging Twitter to advocate for the #GlobalGoals and make a difference. The partnership aimed to drive

greater participation of women in conversations relating to SDGs, with inclusion & safety as paramount.

**Dr. FAWZIA TARANNUM**  
@fawziat





Dr. Fawzia Tarannum is an interdisciplinary water professional, a Climate Reality Leader and a Gender, Equity and Sustainability advocate. She is presently working as an Assistant Professor at the TERI School of Advanced Studies. She is the recipient of the Fulbright Hubert H. Humphrey Fellowship and the University of Nairobi-IDRC Doctoral Research Grant. Fawzia is also the founding member of the Wednesdays for Water communication series instituted by a group of water enthusiasts.

Dr. Tarannum joined Twitter in 2009 as a prerequisite for training. In her opinion, "Twitter is the fastest and most reliable means to access information, share one's views and communicate and connect with like-minded people around the globe." She transitioned from a corporate job to academia to work on community participation in water management.

Dr. Tarannum's primary work is in the field of water, the SDG6, and how it crosscuts with other SDGs like Gender (SDG5), Energy (SDG7), Sustainable Consumption (SDG 12) and Climate Action (SDG 13).

She uses Twitter to voice her opinions on issues in these fields, and share and gain more information. She also runs Tweet-chats and campaigns to expand her network. Being a faculty member of the Water Department at the TERI School of Advanced Studies (@terischool), and the founder member of Wednesdays for Water (@wednesday4water), she extensively uses Twitter to share information on their webinars, training programs, workshops, etc.

It was through Twitter that she got connected with @minaguli who was running a campaign #WorldWaterRun around the World Water Day in 2021. The objective was to come together and lead by example as a global running community and show the world why valuing water is important. Experts have predicted there will be a shortfall of 40% in usable water supplies within the next 10 years.

The #WorldWaterRun kicked off on 16 March 2021 and ended on 22 March 2021 (World Water Day). The participants had to commit a distance that they would run during this period in one go or over 7 days. Some of the Twitter posts included signing up for the 30km run, the Day 1 and Day 6 run and the final completion certificate. "Not only did we run around the world, but we ran around the world 8 times! In total, we ran 320,000km in over 132 countries. This was a united effort to achieve a goal that was far bigger than any one of us could have achieved alone. As a global community of runners, hikers and walkers we came together for water," Dr. Tarannum says.

The Wednesdays for Water is a communication series initiated by the water enthusiasts from Environmental Design Consultants, TERI School of Advanced Studies, TISS, WICCI, Fluxgen, Counterview and youth representatives from India. The objective of the Initiative is to engage in conversation with water experts, grassroots practitioners, policy makers and students to explore the multi-dimensional issues associated with water and find the appropriate solutions.

"The Initiative has a Twitter account @wednesday4water and has been actively engaging with interdisciplinary water experts. Twitter is used extensively to promote all the work under the Initiative including lecture series, weekly quizzes, and other information on water issues and solutions."

  
THE GLOBAL GOALS

For more details, please find the link: <https://sayfty.com/wp-content/uploads/2022/04/Sayfty-SDG-17-Changemakers-Report-April-20.pdf>

## 5 Events/Seminars/Workshops

### 5.1 Organised by the department

#### 5.1.1 Wednesdays for Water seminars

**Wednesdays for Water** communication series have been initiated by the water enthusiasts from TERI School of Advanced Studies, TISS, WICCI, Environmental Design Consultant, Fluxgen, Counterview and youth representatives from India. The objective of the initiative is to engage in conversation with water experts, grass-root practitioners, policy makers and students to explore the multi-dimensional issues associated with water and the associated solutions. We document these discussions and publish it through our media partner, COUNTERVIEW.



Every Wednesday seminars are conducted on water related topics covering all aspects of water. The recorded sessions are available here: <https://wforw.in/events/>

## November 2022



### Innovations in Water

30 November, 2022  
5:00 - 6:15 PM



### Water Commoning

23 November, 2022  
5:00 - 6:15 PM



### What is Water Scarcity?

16 November, 2022  
5:00 - 6:15 PM



### Commercialisation of Disruptive technologies - Do's & Dont's

9 November, 2022  
5:00 - 6:15 PM



### Future of Water & Youth

2 November, 2022  
5:00 - 6:15 PM

## October 2022



### Relevance of Stepwells Today

19 October, 2022  
5:00 - 6:15 PM



### Climate Change and IPCC Report

12 October, 2022  
5:00 - 6:15 PM

## September 2022



### Building Resilience through Nature-based & Community-centered approach

28 September, 2022  
5:00 - 6:15 PM



### Water in Religious - Spiritual Scriptures

21 September, 2022  
5:00 - 6:15 PM



### Geopolitics of Water

14 September, 2022  
5:00 - 6:15 PM



### Wildlife & Wetland II - Sangai Deer & Loktak lake

7 September, 2022  
5:00 - 6:15 PM



## August 2022



### Wildlife & Wetland I - Elephants & Deepor Beel

31 August, 2022  
5:00 - 6:15 PM



### Digital Transformation in Water Sector

24 August, 2022  
5:00 - 6:15 PM



### Community Solutions to Water Problems - II (Local-Rural)

17 August, 2022  
5:00 - 6:15 PM



### Community Solutions to Water Problems - I (Global-Urban)

10 August, 2022  
5:00 - 6:15 PM

## July 2022



### Water Management and AI

29 July, 2022  
5:00 - 6:15 PM



### Water-Smart cities as social-ecological commons

20 July, 2022  
5:00 - 6:15 PM



### Incorporating innovation to everyday water issues

13 July, 2022  
5:00 - 6:15 PM



### What NOT TO DO in Lakes

06 July, 2022  
5:00 - 6:15 PM

## June 2022



### Industrial Wastewater Pollution & Treatment Challenges - II

29 June, 2022  
5:00 - 6:15 PM



### Decentralised Waste Water Management - I

22 June, 2022  
5:00 - 6:15 PM



### Ganga: Reimagining, Rejuvenating, Reconnecting

08 June, 2022  
5:00 - 6:15 PM



### Wells of India

01 June, 2022  
5:00 - 6:15 PM

## April 2022



### Rivers of India

27 April, 2022  
5:00 - 6:15 PM



### Wastewater Treatment & Environmental Sustainability

20 April, 2022  
5:00 - 6:15 PM



### Interlinking Rivers

13 April, 2022  
5:00 - 6:15 PM



### Climate Change Induced Water Distress

06 April, 2022  
5:00 - 6:15 PM

## March 2022



### The Right of Passage

30 March, 2022  
5:00 - 6:15 PM



### Making Water Everyone's Responsibility

23 March, 2022  
5:00 - 6:15 PM



### Celebrating Women in Water - II

16 March, 2022  
5:00 - 6:15 PM



### Celebrating Women in Water - I

09 March, 2022  
5:00 - 6:15 PM



### Atal Bhujal Yojana

02 March, 2022  
5:00 - 6:15 PM

## February 2022



### Moral Spiritual Traditional Values of Water

23 February, 2022  
5:00 - 6:15 PM



### Deepening Water Crisis in the Indian Himalayan Region

16 February, 2022  
5:00 - 6:15 PM



### Wetlands Action for People & Nature - II

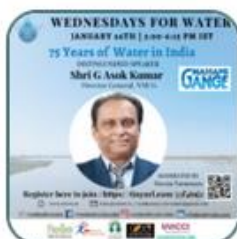
09 February, 2022  
5:00 - 6:15 PM



### Wetlands Action for People & Nature - I

02 February, 2022  
5:00 - 6:15 PM

## January 2022



### 75 Years of Water in India

23 January, 2022  
5:00 - 6:15 PM



### Role of Bio-Enzymes in Water Purification

19 January, 2022  
5:00 - 6:15 PM



### Emerging Pollutants/Contaminants in Water

12 January, 2022  
5:00 - 6:15 PM



### Grassroot Innovations in Water Management - II

05 January, 2022  
5:00 - 6:15 PM



The talk on 26 Jan was delivered by Mr. G Asok Kumar, DG, NMCG on '75 years of Water in India'. Water has mostly been at the receiving end since the time India became independent, whether it is overexploitation for irrigation, carrying the load of domestic and industrial wastewater, or being encroached for development or dammed for flood control and hydroelectric power. The talk was a reflection on the journey of water in India - from abundance to scarcity.

The 16 February talk was on "Deepening Water Crisis in the Indian Himalayan Region". The Hindukush Himalayan Region, also referred to as the third pole has a fragile ecosystem which has become highly vulnerable due to climate change and indiscriminate infrastructure development. The receding glaciers, drying springs, glacier collapse, extreme weather events and biodiversity crisis are all manifestations of the human interference with nature. We had two eminent speakers Dr Anjal Prakash and Dr. Sudeshna Mayasen, who have worked extensively in the Indian Himalayan Region and have wealth of wisdom and knowledge on climate change impacts, vulnerability, and adaptive capacity building in the Himalayan Region to discuss the issue.

The discussion on "Atal Bhujal Yojana- Can it give a new lease of life to the Groundwater in India" was scheduled on 2 March 2022 and was aligned with the World Water Day Theme. India is categorised under water stressed country despite having an average rainfall greater than the global average. We draw a quarter of the world's groundwater to meet 60% of the irrigation demand and 85% of the drinking water requirement. Most of our aquifers are either critical or overexploited. Taking cognizance of the problem, the Government of India launched the Atal Bhujal Yojana in December 2019, to address the issue of depleting groundwater table.

The speakers Dr. Yogesh Jadeja, Dr. Sazina Bhimani and Ms. Neeta Khubchandani who are working with communities to revive the groundwater table in the state of Gujarat shared their experiences in this webinar.

#### **5.1.2 Regional Dialogue on Promoting Sustainable Food Consumption on 27 Jan 2022**

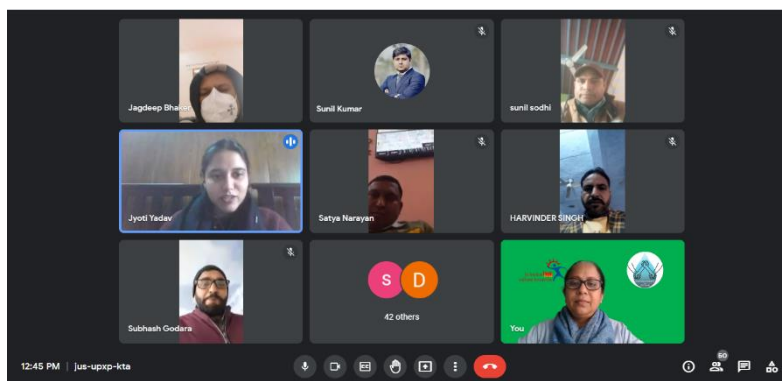
As part of the ongoing UNEP-EU Switch Asia Project, UNEP, TERI School of Advanced Studies and AIT is organized a regional dialogue based on the concept of Farm-to-Fork to discuss sustainable food consumption with focus on ensuring healthy and sustainable diets for the low-income households, with key stakeholders and experts in the region to gather first hand insights. The objective of the regional dialogue was to enrich existing knowledge and identify opportunities to promote sustainable and healthy diets in Asia through engaging wider stakeholders into the discussion. The session was moderated by Dr. Fawzia Tarannum.



<http://switch-asia.eu/event/promoting-sustainable-food-consumption-and-the-shift-to-healthy-diets-in-asia-through-farm-to-fork/>.

### 5.1.3 Online training on “Sensitization and strengthening of in-service Teacher-in-charge of Eco-Clubs from Haryana Government Schools, from 28 Jan – 25th Feb 2022

Dr Fawzia Tarannum conducted six training programmes on Water Conservation and Management for over 300 teachers- in-charge of Eco Clubs from Haryana Government Schools from 28 Jan -25 Feb 2022.



### 5.1.4 Roundtable on "Roundtable on Mainstreaming Resource Efficiency in Textile Industry in India" on Friday, February 4, 2022

TERI School of Advanced Studies in partnership with the SWITCH-Asia Regional Policy Advocacy Component (RPAC), UNEP organised a Roundtable on "Mainstreaming Resource Efficiency in the Textile Sector" where the objective was to discuss with key stakeholders and experts enabling solutions to induce resource efficiency in the textile sector in India. It also aimed to explore systemic changes needed in policies and processes involved in various stages of production so as to help institutionalize resource efficiency and circular economy in the textile industry. The Dialogue was held in online mode (Microsoft Teams) on 4 February 2022, from 2:00pm-4:00pm.

- Prof. Prateek Sharma (VC, TERI SAS) delivered the introductory remarks.
- Welcome address by Dr. Mushtaq Memon (EU SWITCH-Asia RPAC).
- Opening Address: EU Strategy for Sustainable Textile, by Dr. Michael Bucki (Counsellor at the EU Delegation to India and Bhutan)
- Keynote Address by Sh. Upendra Singh (Secretary – Ministry of Textiles, Government of India)

#### ***Presentations:***

- 1) Findings of the Assessment of Indian Textile RE Policy Landscape, by **Dr. Ranjana Chaudhuri** (TERI SAS)
- 2) Sustainable Textiles-Challenges and Benefits, by Mr. Naresh Tyagi (Chief Sustainability Officer, Aditya Birla Group)
- 3) Circular Textile and Apparel in India - Policy Intervention Priorities and Ideas (Ms. Devyani Hari, Director, CRB)
- 4) A Multi-Stakeholder Participatory Approach for Pollution Prevention, Efficient Water Use and Circular Economy, by (Mr. Tatheer Zaidi, SOLIDARIDAD)



The presentations were followed by a **Roundtable discussion**:

Moderator: **Dr. Fawzia Tarannum** (TERI SAS)

The questions addressed included:

- What are the gaps or barriers or challenges to mainstream sustainability into textile sector?
- What actions (policies, regulatory/economic instruments, industry led voluntary targets etc.) are needed to reduce environmental impacts of textile industry as informed by the resource consumption? (focus on areas that have not yet been covered in existing programs and the areas that are most challenging to achieve)
- Priority areas/entry points that should be targeted for immediate adoption of RE measures (e.g. opportunities that will be easiest to implement early in the mainstreaming process)
- What kind of institutional and capacity development arrangement/ needs are required for industry and government stakeholders to operationalizing the RE measures?

Finally, the conclusions and way forward were delivered by **Prof. Arun Kansal** (TERI SAS).



#### 5.1.5 Invited talk at “Career Opportunities in Sustainable Engineering” organised by TERI SAS, 26 February 2022

**Dr. Ranjana Chaudhuri** delivered a talk on Career Opportunities in Sustainable Engineering – For MSc (Mathematics) students, Delhi University on 26 February, 2022 via online platform organized by TERISAS.

#### 5.1.6 Career in Water Talk Series launch on 5 March 2022

**Dr. Fawzia Tarannum** moderated the first session in the series of Career in Water Talk where our Alumni of Water Program, Ms. Swekritha Subramani delivered a talk on ‘Industrial Water Use Optimization’.

**teri school of advanced studies**  
Deemed-to-be University

**Department of Regional Water Studies**  
Saturday, 05 March 2022 | 12:00 Noon (IST)

**“Accelerating Water Education in India”**  
**Build a career in Industrial Water Use Optimization**

**Moderator**  
Fawzia Tarannum  
TERI SAS

**Speaker**  
Swekritha Subramani  
Team Leader (Environment)  
Hindustan Coca-Cola Beverages Pvt Ltd

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[www.terisas.ac.in](http://www.terisas.ac.in)  
Register at: [shorturl.at/fqKPU](https://shorturl.at/fqKPU)

Leaders in Climate Change, Natural Resources Management, Environment and Sustainability Education

#### 5.1.7 Moderator of “Webinar-Urb Talks, 2022” organised by TERI SAS, 5 March 2022

**Dr. Ranjana Chaudhuri** moderated the session, Urb Talks, 2022 on 5 March 2022 via online platform organized by TERISAS as part of M Tech Urban Development & Management programme.



### 5.1.8 Webinar on “Accelerating Water Education in India-Build a career in Water Audit” on 12 March 2022

Our department organised webinar on Accelerating Water Education in India-Build a career in Water Audit” on 12 March 2022. **Dr. Ranjana Chaudhuri** moderated the session and our Alumni of Water Program, Ms. Niyati Sethi (Associate Fellow, TERI) delivered a talk.

**Department of Regional Water Studies**  
**Saturday, 12 March 2022 | 12:00 Noon (IST)**

**“Accelerating Water Education in India”  
Build a career in Water Audit**

**Moderator**  
  
**Dr. Ranjana Ray Chaudhuri**  
TERI SAS

**Speaker**  
  
**Ms. Niyati Sethi**  
Associate Fellow  
TERI

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### 5.1.9 Webinar Session with Faculty of Architecture and Planning : APJ Abdul Kalam technical University, Lucknow, March 13, 2022

**Dr. Ranjana Chaudhuri** participated in the Webinar Session with Faculty of Architecture and Planning: APJ Abdul Kalam technical University, Lucknow on March 13, 2022.

### 5.1.10 World Water Day Webinar - Groundwater- Making the Invisible Visible’ on 22 March 2022

TERI School of Advanced Studies in collaboration with the Climate Reality Project, India organised the World Water Day webinar to bring stories from the ground, challenges, policy perspectives and the way forward on 22<sup>nd</sup> March 2022. The webinar theme was ‘**Groundwater- Making the Invisible Visible**’.

Prof. Prateek Sharma delivered the welcome address followed by Mr. Aditya Pundir, Chief Regulatory Affairs, Tata Steel and Sh G. Asok Kumar, IAS, Additional Secretary and Mission Director, National Water Mission, Ministry of Jal Shakti.





#### 5.1.11 MDP – First Series of Certificate Course on Entrepreneurship in Solid Waste Management, 26 March 2022

The Certificate Course on Entrepreneurship in Solid Waste Management is a joint collaboration of Indian Pollution Control Association (IPCA) and TERI School of Advanced Studies (TERI SAS) led by Coca-Cola Department of Regional water Studies with **Prof. Kansal** as **Principal Investigator**. The course has 13 participants (selected from over 300 registered applicants) who are passionate to contribute actively to the solid waste management sector by starting their enterprise. They are spread across 7 states/ UTs of India i.e., Delhi/NCR, Karnataka, Tamil Nadu, Bihar, Telangana, Maharashtra and Punjab. The participants come from diverse backgrounds with a majority of women participants. Some of the participants are currently studying at university level while others have experience ranging from 2- 20 years. Only 2-3 participants have prior experience in the field of solid waste management.

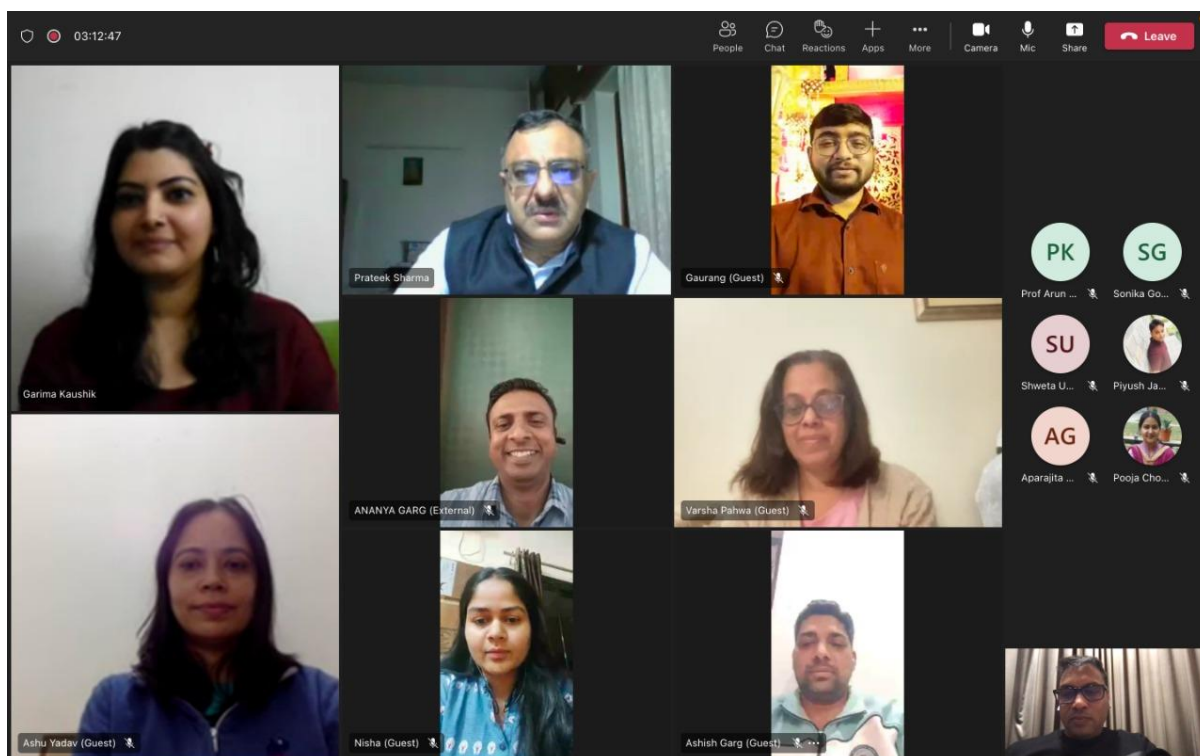
The course was launched on 26th March 2022 with an online orientation session. Total duration of the course is 8 weeks. Prof Arun Kansal, Professor, TERI SAS welcomed the participants and shared the vision of bringing such a unique course. Mr Ashish Jain, Founder Director, IPCA assured the participants that the course will help them in developing knowledge and skills relevant to become an entrepreneur in solid waste management. The participants were also briefed about the objectives, schedule, faculty, and assessment mechanism of the course as well as about brainstorming sessions. The three-hour session was interactive, and participants seemed enthusiastic to be a part of this learning endeavour.



8-week duration Certificate course on 'Entrepreneurship in Solid Waste Management' was successfully completed on May 14, 2022. Participants of the program, who were mostly mid-career professionals, have expressed their satisfaction to have acquired skills to pursue business ideas on waste management.



Prof. Kansal in collaboration with IPCA successfully completed Certificate course on "entrepreneurship in solid waste management" during October 1- November 30, 2022. The programme had 14 participants.



#### 5.1.12 Webinar on “Career Opportunities in Hydraulics and Hydrology “on 28 May 2022

Our department organised a webinar on ‘Career Opportunities in Hydraulics and Hydrology’ on 28 May 2022. **Dr. Sherly M. A.** moderated the session and Jawaz Illathukandi, a hydraulic modeller with Mott-MacDonald, Bangalore (specialist in modelling of river systems and urban drainage system) delivered a talk.

The topics included the current job opportunities in the area of design and modelling of water systems.

#### 5.1.13 Webinar on “Household Water Treatment & Safe Storage “on 4 June 2022

Our department organised a webinar on ‘Household Water Treatment & Safe Storage’ on 4 June 2022. **Dr. Ranjana Chaudhuri** moderated the session and TERI SAS alumnus, Ms. Aparajeeta Vaibhav (Assistant Programme Leader, Seghal Foundation) delivered a talk.



#### 5.1.14 Workshop on Building Community Resilience to Climate Shocks in the Indian Himalayan organised by IUPUI and TERI SAS during 10 August 2022 (online) and 7-8 September 2022 in Dehradun

Under the Global Impact Research Grant (GIRG), in partnership with IUPUI, TERI SAS organised a two-day workshop focused on tackling SDGs 2 (Zero Hunger), 5 (Gender Equality), 13 (Climate Action), and 17 (Partnerships for the Goals). There were around 40 participants at the Climate Change Workshop held on 7 & 8 September at the Ramada by Wyndham, Dehradun. **Dr. Fawzia Tarannum, Dr. Ranjana Ray Chaudhuri and Dr. Sherly M. A.** participated and delivered talks.

- a) Climate Change, Social Justice and Gender, equity, and water management: **Dr. Fawzia Tarannum**
- b) Hydrological Cycle and Adaptation Strategies: **Dr. Ranjana Ray Chaudhuri**
- c) Challenges in the Indian Himalayan Region - Problem Tree Analysis: **Dr. Ranjana Ray Chaudhuri**
- d) Introduction to DPSIR Model: **Dr. Sherly M. A.**
- e) Water Resources and Land use mapping in IHR: **Dr. Sherly M. A.**

The goals of the workshop were: 1) To help participants, including academics, policy planners, and civil society and non-governmental organization representatives, to understand the water resource and agricultural challenges faced by the mountain communities, and 2) To create an action plan by the participants that can be utilized in their home communities to address these challenges. Following the workshop, IUPUI will work with the Department of State, U.S. Agency for International Development (USAID), and the National Science Foundation to conduct research and continue to work with participants towards achieving the SDGs.



## Agenda

### Workshop: Building Community Resilience to Climate Shocks in the Himalayan Region

#### Day 1: Wednesday, 7 Sept 2022

09:00 - 09:30	Registration
09:30 - 09:35	Welcome remarks - Dr. Ian S. McIntosh, Director of International Partnerships, Indiana University School of Informatics & Computing, Indianapolis
09:35 - 10:00	Keynote Address - Dr. S. P Singh - Former Vice Chancellor, HNB Garhwal University, Uttarakhand
10:00 - 11:00	Context setting - Dr. Gabriel Filippelli, Chancellor's Professor of Earth Sciences, and Director, Center for Urban Health Indiana University-Purdue University Indianapolis.
11:00 - 11:30	Tea Break/Group Photo
11:30 - 13:00	Session 1: Water Resources and Land use mapping in IHR: Dr. Sherly MA, Assistant Professor, TERI School of Advanced Studies, Delhi (30 minutes)

The session shall focus on mapping of water resources and land use in the Indian Himalayan Region using Google Maps along with a vulnerability assessment of the communities to climate shocks.

**Breakout room-** Application of DPSIR (Driver-Pressure-State-Impact-Response) sustainability framework for identification and mapping of the various aspects related to climate, water, and agricultural issues in the region from a multi-stakeholder and multi-disciplinary perspective. (30 minutes)



### 5.1.15 Climate Dialogue 2 on Nature Based Solutions involving Rural Communities at TERISAS campus on September,5, 2022

Dr. Ranjana Ray Chaudhuri organized Climate Dialogue 2 on Nature Based Solutions involving Rural Communities on behalf of TERISAS for The Nature Conservancy at TERISAS campus on September, 5, 2022.

## 5.2 Organised by other organizations

### 5.2.1 Invited talk by Dr Fawzia Tarannum on Migration and Environmental Justice at IIT Kanpur on 17 Jan 2022



**Dr. Fawzia Tarannum** participated in the session on 'on Migration and Environmental Justice' at IIT Kanpur on 17 January 2022 as part of the **Just Transition Talk Series**.

### 5.2.2 Invited talk by Dr Fawzia Tarannum in webinar by the Maritime Research Centre (MRC), Pune on 5 March 2022

Dr Fawzia Tarannum delivered a talk on 'Water Governance in the Brahmaputra Basin' organised by The Maritime Research Centre (MRC), Pune in conjunction with M/S NirDhwani Technology Pvt Ltd (NDT), in a webinar titled- "COP26 and the Brahmaputra- A New Perspective Based on the Underwater Domain Awareness (UDA) Framework" on 05 March 2022. URL: <https://www.youtube.com/watch?v=cQ6U2d3o0d0>



### 5.2.3 Online Co-creation Workshop on "Pavitra Ganga" TU Delft & TERI, March 14, 2022

**Dr. Ranjana Ray Chaudhuri** participated in the online Co-creation Workshop on "Pavitra Ganga" TU Delft & TERI on March 14, 2022.

### 5.2.4 Regional Policy Dialogue on Sustainable Finance - Mobilising Finance for SCP and SDG 12 on 17 March 2022

Regional Policy Advocacy Dialogue of EU Switch Asia, in partnership with the TERI School of Advanced Studies (SAS) and the Asian Institute of Technology (AIT), is organising a regional policy dialogue based on the concept of mobilizing finance for SDG-12. The dialogue focussed on the imperatives of financing SCP and SDG-12, highlight the key trends, get first-hand insights from financing organisations and academic institutes, emphasising key barriers to garner private investments into the sector, and also focusing on the role of enablers to address the challenges. Dr



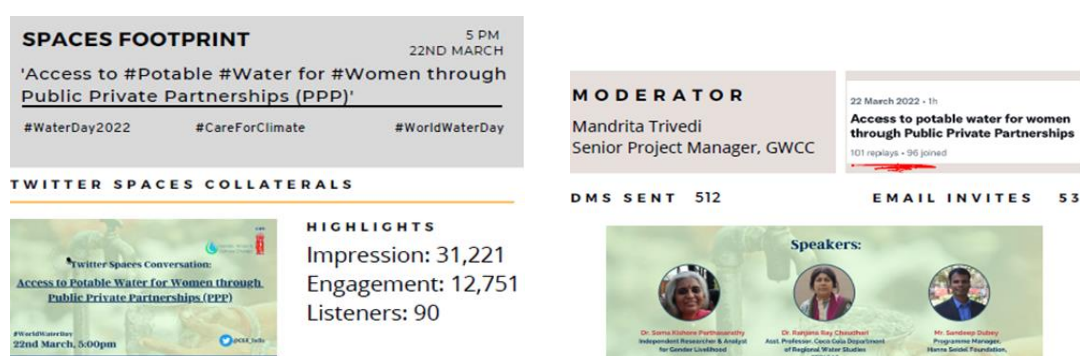
Fawzia Tarannum moderated the Dialogue and steering a panel discussion. <http://switch-asia.eu/event/finance-policy/>

### 5.2.5 Invited talk by Dr. Ranjana Ray Chaudhuri at Webinar on “Celebrating World Water Day” by Wetland Authority of Delhi, 22 March 2022

**Dr. Ranjana Ray Chaudhuri** delivered a talk at a webinar on “Celebrating World Water Day” by Wetland Authority of Delhi, 22 March 2022. Her topic was ‘Groundwater footprint of urban India’.

### 5.2.6 Invited talk by Dr. Ranjana Ray Chaudhuri through twitter on “Access to #Potable #Water for #Women through Public Private Partnerships (PPP)”, by Centre for Social Research, 22 March 2022

**Dr. Ranjana Ray Chaudhuri** participated in the twitter discussion on “Access to #Potable #Water for #Women through Public Private Partnerships (PPP)” by the Centre for Social Research on 22 March 2022.



### 5.2.7 Invited talk by Dr Fawzia Tarannum for World Water Day webinar by Tata Steel and Institute of Engineers, Jamshedpur Chapter, 22 March 2022

**Dr Fawzia Tarannum** was an Invited Speaker on World Water Day 2022 Webinar being Organized by Tata Steel and Institute of Engineers, Jamshedpur Chapter on 22<sup>nd</sup> March. She spoke on Valuing Groundwater- The diminishing resource in India.

The poster for the World Water Day 2022 Virtual Seminar is titled “Groundwater - Making the Invisible Visible”. It is organized by Tata Steel and The Institution of Engineers (India). The event is scheduled for March 22, 2022, from 10:00 am to 11:30 am. The poster lists the following participants:

- Presenters:**
  - Pankaj Kumar Satija, MD, Tata Steel Mining Limited
  - Fawzia Tarannum, TERI School of Advance Studies
- Panel Discussion:**
  - Amit Ranjan Chakraborty, Chief, Environment Management
  - Dr D Chakraborty, EX Senior Scientist CGWB, Ministry of Jal Shakti
  - Dr Y R Sajjaji Rao, Scientist 'G' & Head, National Institute of Hydrology
  - Dr C M Rao, Professor NIT, Jamshedpur

A link to join the seminar is provided at the bottom: [Click here to join](#).



### 5.2.8 Invited talk by Dr. Ranjana Chaudhuri at Fergusson College, Pune on April 25, 2022

Dr. Ranjana Chaudhuri delivered a lecture on “Climate Change, Sustainability and Future Skills” on April 25, 2022 at Fergusson College, Pune.



### 5.2.9 Training of Trainers for roll-out of River Basin Management Cycle training series held at National Water Academy Pune, from 31 August- 2 September, 2022

**Dr. Ranjana Chaudhuri** attended Training of Trainers for roll-out of River Basin Management Cycle training series held at National Water Academy Pune, from 31 August- 2 September, 2022.

### 5.2.10 Invited talk by Dr. Ranjana Ray Chaudhuri for The Green School Teachers' Workshop at Jamshedpur organised on 14th December 2022.

Dr. Ranjana Ray Chaudhuri was an invited speaker for The Green School Teachers' Workshop organised on 14th December 2022 at Jamshedpur. The workshop was attended by 25 teachers from 25 experienced schools across Jharkhand and Odisha under the TERI- TATA Steel, TATA Steel Foundation Green School Initiative. She delivered a talk on reclaiming rainwater at the source and learning by doing.



### 5.2.11 Invited talk by Prof. Kansal at Deendayal Research Institute, Ujjain, MP on 27-29 December 2022

**Prof. Kansal** delivered a talk on Human water relationship along temporal gradient, in Sujalam- description of elements of water in Indian Knowledge System, International Conference on 27-29 December 2022, Ujjain, MP organised by Deendayal Research Institute.

#### 5.2.12 Invited talk by Dr. Sudipta Chatterjee at Devi Ahilya University, Indore, Madhya Pradesh on 30 December 2022

**Dr. Sudipta Chatterjee** presented a seminar to Faculty Development Programme organized by Human Resource and Development Centre (HRDC) , Devi Ahilya University , Indore, Madhya Pradesh on 30 December 2022.

## 6 MoU signed

The Department Signed **MoU with IPCA** for starting an entrepreneurship certificate course on **waste management for youths**. The course is open for student pan India and includes online lectures and field visits. The first batch of the course started from March, 2022.

## 7 Projects (Ongoing/Completed)

### 7.1 MDP - Certificate Course on Entrepreneurship in Solid Waste Management

The Certificate Course on Entrepreneurship in Solid Waste Management is a joint collaboration of Indian Pollution Control Association (IPCA) and TERI School of Advanced Studies (TERI SAS) led by Coca-Cola Department of Regional water Studies with **Prof. Kansal** as the **Principal Investigator**. The course was launched on 26<sup>th</sup> March 2022 with an online orientation session. Total duration of the course is 8 weeks and it will be held on half-yearly basis for next 5 years.

### 7.2 Assessment of activities implemented by IPCA under the CSR project of SBI Card

**Prof. Kansal** as the PI completed an assessment of activities implemented by IPCA under the CSR project of SBI Card. Consultancy assignment budget is Rs 1.43 Lakhs.

### 7.3 SWITCH Asia-UNEP project on Regional Policy Advocacy Component on Strengthening resource efficiency and sustainable consumption and production

EU SWITCH Asia Project on Regional Policy Advocacy Component on Strengthening resource efficiency and sustainable consumption and production. The project has four components, Youth Dialogue on Sustainable Lifestyle in India, Resource efficiency in Textile, Farm to Fork and Sustainable Finance.

The project was successfully completed and the report was submitted.



#### **7.4 UNEP sponsored project on Establishing a Green University Network in India**

The project was successfully completed and the report was submitted.

#### **7.5 The Nature Conservancy (TNC) for landscape restoration in the State Forest Department, Govt of Madhya Pradesh**

Our department has received a grant of Rs 14.49 lakhs from The Nature Conservancy (TNC) for landscape restoration in the State Forest Department, Govt of Madhya Pradesh in collaboration with Society for Resource Planning, Development and Research (SRPDR). The **Principal Investigator** of the project is **Dr. Sudipta Chatterjee** and the project duration is 9 months.

#### **7.6 UNEP project 'Countermeasures for Microplastics'**

**Dr. Sudipta Chatterjee** has provided consultancy for a UNEP project, 'Countermeasures for Microplastics' for an amount of INR 300,000/-.

#### **7.7 Consultancy to Vet two DPRs on sewerage scheme including Sewage Treatment Plant- Leh and Ladakh**

The project was led by **Prof. Arun Kansal** as PI and was completed by August 2022. It was funded by the Housing and Urban Development Department, Directorate of Urban Local Bodies, Ladakh with a budget of INR 218000 (plus taxes).

## 7.8 Impacts of nitrogen pollution on forests of Western Himalaya (Ongoing)

**Dr. Sudipta Chatterjee's** project on assessment of impacts of nitrogen pollution on forests of Western Himalaya is in progress.

**Dr. Sudipta Chatterjee** presented a seminar to South Asia Nitrogen Hub project 'Impact of Nitrogen pollution on forests of Himalaya with Lichens as an indicator at Maldives National University during 26 Oct to 3 November 2022.

## 8 Research Publications

- Chaudhary S. Chua L.H.C. and **Kansal, A.** (2022). "Event mean concentration and first flush from residential catchments in different climate zones". *Jr. Water Research*. 118594. doi.org/10.1016/j.watres.2022.118594. **Elsevier. (IF: 13.4).**
- Yadav, V. **Sherly, M. A.**, Ranjan, P., Prasad, V., Tinoco, R. O. and Laurent, A. (2022). "Risk of plastics losses to the environment from Indian landfills", *Resources, Conservation and Recycling*, 187, p. 106610. DOI: 10.1016/j.resconrec.2022.106610. **Elsevier. (IF: 13.7)**
- Chaudhary, S., Chua, L.H.C., and **Kansal, A.** (2021). "The uncertainty in stormwater quality modelling for temperate and tropical catchments". *Jr Hydrology* 617, 128941.11 pg. doi.org/10.1016/j.jhydrol.2022.128941. **Elsevier. (IF: 6.708).**
- Bedi, C., **Kansal, A.\***, Mukheibir, P., (2022). "A conceptual framework for the assessment of and transition to liveable, sustainable, and equitable cities". *Jr. Environmental Science and Policy*. 140, 134-145p. **Elsevier. (IF: 6.424).**
- **Upadhyay, Mudita** and **Sherly, M. A.\*** (2022). "Multivariate Framework for Integrated Drought Vulnerability Assessment – An Application to India". *International Journal of Disaster Risk Reduction* (In press). **Elsevier. (IF: 4.8).**
- J, Paonam and **Chatterjee, Sudipto.** 2022. Threat perceptions of stakeholders, A Case study of Loktak lake. A Ramsar site under Montraeux record in North East India. *Wetlands* 42.114. <https://doi.org/10.1007/s13157-022-01630-x>
- Lokesh, D. and **Chatterjee, Sudipto.** 2022. Assessing livelihood impact of forest carbon projects using sustainable livelihood framework. *Mitigation and Adaptation Strategies for Global Change*, 27 (49). <https://doi.org/10.1007/s11027-022-10022-9>
- **Chatterjee, Sudipto** , Das, Manab and Bhanot, Charu. 2022. Restoration of Forest and Associated Ecosystem Services of Backfilled Open Cast Coal Mines at Dhanbad, Jharkhand, India. *International Journal of Ecology and Environmental Sciences* 48: 627-638, <https://doi.org/10.55863/ijees.2022.0627>
- Karmakar, Subhankar, **Sherly, M. A.**, and Mohanty, Mohit (2022). *Urban Flood Risk Mapping: A State-of-the-Art Review on Quantification Current Practices, and Future Challenges (Chapter 5)*, in *Advances in Urban Design and Engineering - Perspectives from India*, **Springer Nature**, Singapore, ISBN: 978-981-19-0411-0, URL: [https://link.springer.com/chapter/10.1007/978-981-19-0412-7\\_5](https://link.springer.com/chapter/10.1007/978-981-19-0412-7_5) .
- **Vasudevan, Preethi, Sherly, M. A.\***, and **Ray Choudhuri, Ranjana** (2022). *Hydrological Risk Assessment of the Coastal Megacity Chennai Using DRASTIC Method and SWAT (Chapter 1)*, in *Innovative Trends in Hydrological and Environmental Systems - Select Proceedings of ITHES 2021*, **Springer Nature**, Singapore, ISBN: 978-981-19-0411-0, URL:

[https://link.springer.com/chapter/10.1007/978-981-19-0304-5\\_1](https://link.springer.com/chapter/10.1007/978-981-19-0304-5_1).

- **Upadhyay, Mudita** and **Sherly, M. A.\*** (2022). *Trend analysis of large dam storage capacity and its effect on water demand management in India (Chapter 18)*, in Sustainable Water Resources Management - Proceedings of SWARM 2020, **Springer Nature**, Singapore, Series ISSN: 2662-6829, URL: <https://link.springer.com/book/9789811675348>.
- Amit Pandey and **Ray Chaudhuri, Ranjana** (2022). *An Experimental Approach to Know the Role of Sacred Groves in Protecting Soil and Water in Arid Biogeography Province of India*, Ambient Science, 2022: Vol. 09(1); 01-05, DOI: 10.21276/ambi.2022.09.1.aa01.
- **Dwivedi, S.** and **Sherly, M. A.\*** (2022). "GIS-based Mapping of Digital Agriculture Potential in India for Irrigation Water Management", *Proceedings of the International Symposium on Managing Land and Water for Climate Smart Agriculture*, jointly organized by **FAO** and **IAEA** at IAEA Headquarters, Vienna, Austria, 25-29 July 2022.

## 9 Faculty Corner

Dr. Fawzia Tarannum has resigned from TERI SAS on 07 October 2022. We wish all the best for her future endeavours!