

NAAC A+

Report on

Sustainable Development Goal 6



CLEAN WATER AND SANITATION



Sustainable Development Goal: Clean Water and Sanitation

Aligned with Sustainable Development Goal 6: Clean Water and Sanitation, the University undertakes innovative research to ensure the availability and sustainable management of water and sanitation. Key initiatives include developing advanced water purification technologies and low-cost wastewater treatment solutions to improve water quality and accessibility. Researchers focus on creating efficient water recycling systems and sustainable irrigation practices to optimize water usage in agriculture and urban settings. Studies on the impact of climate change on water resources guide adaptive strategies for conservation and management. The University also explores the integration of smart technologies for real-time water quality monitoring and leakage detection, enhancing the efficiency of water distribution systems. By collaborating with government agencies, industries, and international organizations, the University contributes to innovative solutions that address water scarcity, pollution, and sanitation challenges, fostering sustainable development and resilience in water management. Since 1998, the SRHU Water and Sanitation (WATSAN) Department has been leading initiatives in rural water management and community development, beginning with the Swajal Project, followed by the Himmotthan Project funded by TATA Trusts and Hans Jal Dhara in Pauri. Now functioning under the HANS Foundation, an initiative of Hans Rural Support Initiative Trust (RIST, USA), the department focuses on capacity building. As a recognized Key Resource Centre (KRC) under the Jal Jeevan Mission (JJM) Govt of India, it has conducted Level-2 and Level-3 trainings across 31 States and Union Territories, empowering Officers, and line departments, PRIs, VWSCs, ASHAs, and AWWs to strengthen community-led water management and sustainability efforts.

Table 1: WASH Accomplishments

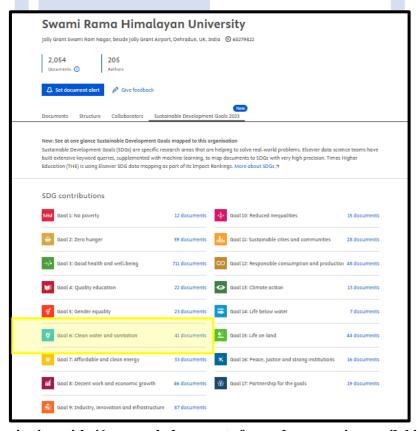
Project	Year	Funding Agency	Coverage
SWAJAL Project	1998 - 2003	State Govt. & World Bank	43 villages (2414 HHs & 15347 Pop.)
Himmotthan Project (Phase-I, II & III)	2002-2014	Sir Ratan Tata Trust/Navajbai Ratan Tata Trust/ C. N. Hilton Foundation	41 villages (2099 HHs & 13319 Pop.)
Himmotthan Pariyojana - WASH+	2014-2018	Himmotthan Society, Titan Comp. Ltd. & Tata Water Mission	11 villages 918 HHs, 4948 Population
Sector Reform	2002-2005	Govt. of India	8 GP (3747 HHs & 20104 Pop.)
Watermill Initiative	2005-2006	UREDA & Asian Development Bank	District – Tehri Garhwal & Uttarkashi
National Rural Drinking Water Program	2014-2016	Govt. of India	8 Hab., 6 GP (185 HHs & 1383 Pop.)
Resource Center Development	2003-2006	IRC, Netherlands	Uttarakhand State
Sector Program (SWAp)	2006-2014	State Govt. & World Bank	81 villages (9970 HHs & 59175 Pop.)
Uttarakhand Urban Sector Development Investment Program	2010-2013	State Govt. & Asian Development Bank	Dehradun City (60 wards-578420 Pop.)
Himmotthan Pariyojana - WASH+	2014-2018	Himmotthan Society, Titan Comp. Ltd. & Tata Water Mission	11 villages 918 HHs, 4948 Population
HANS Jaldhara_Pauri	2016-2018	The HANS Foundation	16 villages 693 HHs, 3462 Population
Zila Yojana Program	2015-2018	Govt. of Uttarakhand	24 GP



(Phase-I, II & III)			(2883 HHs, 19418 Pop.)
School Wash	2018	НІНТ	7 schools in Rudraprayag
Notional Vay Passymas Contro (In		Min. of Drinking Water & Sanitation, Govt. of India with	5 District covering 12 Blocks, 96 GPs
National Key Resource Centre (In collaboration with UN body WSSCC)	2017-2021	State Govt. of UP & Uttarakhand	3 Districts - Almora, Bageshwar and Rudraprayag
Implementation of Water & Springshed Schemes	2019-2022	Rural India Supporting Trust (RIST), USA with The Hans Foundation	8 villages
Solid & Liquid Waste Management	2019-Cont.	Govt. of India	25 Villages, 12 GP
Jal Jeevan Mission – Implementation Support Agency	2020-Cont.	Govt. of India & Govt. of Uttarakhand	60 villages
Jal Jeevan Mission – Key Resource Centre	2021-Cont.	Govt. of India, State Govt. of Uttarakhand & Sikkim	31 States/UTs

6.1 Research on Water

The University's research portfolio addresses critical issues related to water quality, sanitation management, wastewater treatment, environmental sustainability, and public health. Through interdisciplinary collaborations across its constituent colleges and research centres, SRHU contributes to developing sustainable water solutions aligned with both national priorities and the United Nations Sustainable Development Goals specifically SDG 6: Clean Water and Sanitation.



Clean Water and Sanitation with 41 research documents focused on ensuring availability and sustainable management of water and sanitation for all



6.1.1 Clean Water and Sanitation: Cite Score

The University has demonstrated strong performance in high-impact journals related to Clean Water and Sanitation research. Between 2022–2024, more than one-third of publications appeared in journals with Cite Score above 9.0, such as Chemosphere, Environmental Pollution, and International Journal of Molecular Sciences, showcasing research excellence.

Table 2: List of publications aligning with SDG 6: Clean Water and Sanitation (Scopus Indexed)

SN	Paper Title	Authors	Journal / Book Name	Year	Cite Score	FWCI
1	LED fluorimetric analysis of uranium in potable groundwater and associated health concerns	Negi, R.S.; Prasad, M.; Aswal, R.S.; Uniyal, S.C.; Ramola, R.C.	Journal of Radioanalytical and Nuclear Chemistry	2025	2.9	6.49
2	Groundwater Quality Assessment in the Foothills of the Kumaun Himalaya, India	Negi, R.S.; Negi, J.S.; Prasad, M.; Singh, K.P.	Water Environment Research	2025	5.8	
3	Exploring Papaya Byproducts: A Step toward Circular Economy and Sustainability	Bhatt, S.C.; Negi, S.; Chauhan, M.; Kumar, V.; Vijay, K.	ACS Food Science and Technology	2025	4.7	
4	Hospital-associated effluents: the masked environmental threat that needs urgent attention and action	Sharma, C.; Gupta, S.; Vijay, K.; Kumar, V.	Discover Applied Sciences	2025	6.5	0.49
5	Biological removal of iron content from water sources using iron-oxidizing bacteria: a review	Bahuguna, M.; Joshi, N.; Bhandari, G.; Anggayasti, W.L.; Huda, N.	Environmental Pollutants and Bioavailability	2025	6.5	
6	Spatial analysis and soft computational modeling for hazard assessment of potential toxic elements in potable groundwater	Aswal, R.S.; Prasad, M.; Singh, J.; Pandey, O.P.; Egbueri, J.C.	Scientific Reports	2024	6.7	2.28
7	Human exposure to uranium through drinking water and its detrimental impact on the human body organs	Ashish, A.; Bangotra, P.; Dillu, V.; Mehra, R.; Singh, N.L.	Environmental Geochemistry and Health	2024	7.2	1.49
8	Micro-algae: Revolutionizing food production for a healthy and sustainable future	Naik, B.; Mishra, R.; Vijay, K.; Bhatt, S.C.; Rizwanuddin, S.	Journal of Agriculture and Food Research	2024	7.5	15.18
9	Valorization of wastewater through bioremediation approach	Aswal, R.S.; Prasad, M.; Kumar, A.	Biotechnologies for Wastewater Treatment and Resource Recovery Current Trends and Future Scope	2024		1.26
10	Wireless System for Monitoring of Water Tank Using Emerging Technologies	Malik, P.K.; Singh, S.; Tiwari, P.; Chanti, Y.; Naim, A.	2024 International Conference on Smart Devices ICSD 2024	2024		



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11	Demineralized Water Consumption: Unravelling Current Trends and Health Effects	Joshi, N.; Yadav, N.; Choudhary, A.K.; Shikha, D.; Samant, S.	Proceedings 2024 International Conference on Healthcare Innovations Software and Engineering Technologies (HISET 2024)	2024		
12	United nations sustainable development goals in the context of hydrological extremes	Uniyal, A.; Kaushik, N.; Uniyal, H.P.	Water Sustainability and Hydrological Extremes Quantity Quality and Security	2024		
13	Microbiological dimensions and functions in constructed wetlands: A review	Rani, A.T.; Chauhan, M.; Sharma, P.K.; Mitra, D.; Joshi, S.	Current Research in Microbial Sciences	2024	10	0.84
14	Probiotics in Aquaculture	Chandra, S.; Joshi, N.	Handbook of Aquatic Microbiology	2024		1.58
15	Agricultural Innovations using IOT - A Comprehensive Review	Singh, J.N.; Mall, S.; Arthi, T.S.; Srivastava, D.; Hussein, L.	Proceedings IEEE 2024 1st International Conference on Advances in Computing Communication and Networking (ICAC2N 2024)	2024		1.09
16	A critical review on green approaches in shape and size evolution of metal nanoparticles and their environmental applications	Kumari, M.; Pandey, S.; Giri, V.P.; Nautiyal, C.S.; Mishra, A.	Environmental Nanotechnology Monitoring and Management	2023	16	0.19
17	A review on hospital wastewater treatment technologies: Current management practices and future prospects	Bhandari, G.; Chaudhary, P.; Gangola, S.; Rafatullah, M.; Chen, S.	Journal of Water Process Engineering	2023	9.6	1.56
18	Nanotechnology for bioremediation of industrial wastewater treatment	Kumari, M.; Bora, J.; Dhasmana, A.; Sinha, S.; Malik, S.M.	Advanced Application of Nanotechnology to Industrial Wastewater	2023		1.75
19	Energy from Waste: Poterioochromonas malhamensis Used for Managing Dairy Effluent and Producing Valuable Microalgal Lipid	Dhillon, N.; Gupta, S.; Kumar, V.R.; Bhandari, G.; Arya, S.	Journal of Pure and Applied Microbiology	2023	1.6	0.28
20	Genomics, Proteomics, and Metabolomics Approaches to Improve Abiotic Stress Tolerance in Tomato Plant	Naik, B.; Vijay, K.; Rizwanuddin, S.; Mishra, S.; Rustagi, S.	International Journal of Molecular Sciences	2023	9	2.2
21	The Challenges of Wastewater and Wastewater Management	Kumari, S.; Dwivedi, S.; Khan, E.A.R.; Dhasmana, A.; Malik, S.M.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023		1.64



22	Nanofiltration Applications for Potable Water, Treatment, and Reuse	Patel, N.; Dhasmana, A.; Kumari, S.; Nayanam, S.; Malik, S.M.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023		2.46
23	Sustainable Green Approaches for Wastewater Purification	Kumari, P.; Dhasmana, A.; Kishore, S.; Mukherjee, N.; Malik, S.M.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023		1.64
24	Microbial exopolysaccharides and their application for bioremediation of environmental pollutants	Vijaylakshmi; Hemwati Nandan, R.M.; Chaudhary, S.; Bhandari, G.	Advanced Microbial Technology for Sustainable Agriculture and Environment	2023		4.17
25	Remediation of heavy metals by rhizospheric bacteria and their mechanism of detoxification	Gangola, S.; Joshi, S.; Bhandari, G.; Bhandari, N.S.; Mittal, A.	Advanced Microbial Technology for Sustainable Agriculture and Environment	2023		6.25
26	A Perspective Review on Microbial Fuel Cells in Treatment and Product Recovery from Wastewater	Malik, S.M.; Kishore, S.; Dhasmana, A.; Minkina, T.M.; Rajput, V.D.	Water Switzerland	2023	6	4.59
27	Microbial Biosurfactants and Their Implication Toward Wastewater Management	Rawat, G.; Choudhary, R.; Kumar, V.R.	Handbook of Environmental Chemistry	2023	2.1	
28	Exploring Microbial-Based Green Nanobiotechnology for Wastewater Remediation: A Sustainable Strategy	Malik, S.M.; Dhasmana, A.; Preetam, S.; Singh, R.K.; Rajput, V.D.	Nanomaterials	2022	9.2	1.28
29	Microalgae-based removal of pollutants from wastewaters: Occurrence, toxicity and circular economy	Bhatt, P.; Bhandari, G.; Bhatt, K.; Simsek, H.	Chemosphere	2022	18.1	6.27
30	Algae in wastewater treatment, mechanism, and application of biomass for production of value-added product	Bhatt, P.; Bhandari, G.; Turco, R.F.; Bhatt, K.; Simsek, H.	Environmental Pollution	2022	16	7.14
31	Microalgae: A promising tool for pesticide mitigation in wastewater	Rajput, V.; Jaiswal, K.K.; Dhatwalia, V.K.; Kumar, S.K.; Verma, M.	Pesticides Bioremediation	2022		0.41
32	Biotechnological tools to elucidate the mechanism of pesticide degradation in the environment	Gangola, S.; Bhatt, P.; Alagarasan, J.K.; Bhatt, K.; Rene, E.R.	Chemosphere	2022	18.1	5.88
33	Microbial fuel cell united with other existing technologies for enhanced power generation and	Patwardhan, S.B.; Savla, N.; Pandit, S.; Kumar, V.R.; Prasad, R.	Applied Sciences Switzerland	2021	5.5	0.89



	efficient wastewater treatment					
34	Rhizobiont in Bioremediation of Hazardous Waste	Kumar, V.R.; Prasad, R.; Kumar, M.K.M.	Rhizobiont in Bioremediation of Hazardous Waste	2021		1.21
35	Constructed Wetland: A Green Technology for Wastewater Treatment	Choudhary, A.K.; Kumar, P.	Environmental Microbiology and Biotechnology Volume 1: Biovalorization of Solid Wastes and Wastewater Treatment	2020		
36	Health promotion and prevention of bowel disorders through toilet designs: A myth or reality	Bhattacharya, S.; Chattu, V.K.; Singh, A.J.	Journal of Education and Health Promotion	2019	2.7	
37	Phycoremediation of Pollutants for Ecosystem Restitution	Verma, N.; Sharma, S.V.; Dhasmana, A.; Kumar, V.	Microorganisms for Sustainability	2019	3.1	0.19
38	Water quality assessment and treatment of pharmaceutical industry wastewater: A case study of Pharmacity Selaqui, Dehradun of Uttarakhand State, India	Gupta, S.; Dobhal, R.; Gupta, A.; Rani, U.; Kumar, V.R.	Phytobiont and Ecosystem Restitution	2018		
39	Constructed Wetland Technology for Pulp and Paper Mill Wastewater Treatment	Kumar, S.S.; Choudhary, A.K.	Constructed Wetlands for Industrial Wastewater Treatment	2018		1.16
40	Practices of menstrual hygiene among adolescent girls in a District of Uttarakhand	Juyal, R.; Kandpal, S.D.; Semwal, J.; Negi, K.S.	Indian Journal of Community Health	2012	0.4	1.1
41	Recent analytical techniques in detection of poisons in Lab - Review	Chaturvedi, R.K.; Das, S.; Animesh, K.; Pathak, M.K.	Medico Legal Update	2009	0.1	

Link: https://srhu.edu.in/wp-content/uploads/2025/11/SDG-Publications.pdf

6.1.2 Clean Water and Sanitation: FWCI

The University's research on Clean Water and Sanitation demonstrates strong international visibility and influence. Of the 41 publications analysed, $23 \approx 56 \%$ achieved an FWCI above 1.0, signifying performance above the global average across subject areas. High-impact works include publications in Journal of Agriculture and Food Research (FWCI 15.18), Chemosphere (6.27), Environmental Pollution (7.14), and Scientific Reports (2.28). The overall field-weighted citation performance indicates that the University's water-related research not only maintains quantity but also delivers substantial scholarly influence worldwide.

Table 3: Summary of Field-Weighted Citation Impact (FWCI) for SDG 6 Research Publications (2012–2025)

Metric	Value
Total publications corresponding to SDG 6: Clean Water and Sanitation	41
Publications with FWCI > 1	23



Proportion above 1.0	56 %
Average FWCI (overall)	$\approx 2.5 - 3.0$
Highest FWCI recorded	15.18 (Journal of Agriculture and Food
Trighest I well recorded	Research, 2024)

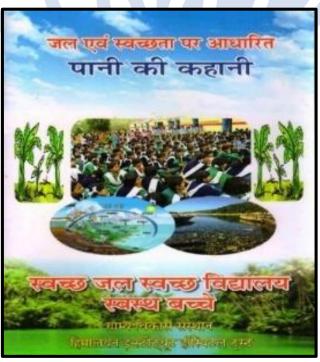
6.1.3 Clean Water and Sanitation: Publications

The University's publication output in SDG 6: Clean Water and Sanitation related areas has shown a steady increase, with peak productivity observed between 2023 and 2025. Research articles and book chapters dominate, indicating strong scholarly contributions to knowledge dissemination in water treatment and sanitation.

Table 4: Year-wise Distribution of SDG 6: Clean Water and Sanitation Research Publications by Type (2012–2025)

Year	Research	Book Chapters	Conf. Papers	Total
1 car	Articles	Dook Chapters	Com. 1 apers	Total
2025	5	0	0	5
2024	5	2	3	10
2023	4	6	0	10
2022	3	3	0	6
2021	1	1	0	2
≤2020	3	5	0	8
Total	21	17	3	41

Under the WATSAN Department, two Patent Direct Injection techniques have been used for hand pump recharge to improve groundwater levels and ensure sustainable water availability. Along with this, one copyrighted awareness initiative titled "Pani Ki Kahani" has been created to spread awareness about water conservation and inspire communities to adopt water-saving practices.



"Pani Ki Kahani" – a copyrighted awareness initiative aimed at promoting water conservation and inspiring communities to adopt sustainable water-saving practices through education and participation



In addition, the department has developed and disseminated a range of communication and knowledge materials, including *Jal Jeevan Samvad* magazines, *Blue Pages*, awareness booklets, and case studies, highlighting successful interventions and field innovations. Through these scholarly and outreach efforts, SRHU continues to promote water literacy, conservation awareness, and evidence-based practices to ensure safe and sustainable water for every household and community while promoting SDG 6: Clean Water and Sanitation.



Snippets of communications and knowledge materials developed by SRHU under SDG 6: Clean Water and Sanitation

List of Book, Manual & Article Publications under RDI and SRHU:

- ➤ Book chapter on "UN SDGs in the context of hydrological extremes" published in the Elsevier publication "Water Sustainability and Hydrological Extremes", 2024.
- ➤ "Aquifer Recharging by Direct Injection of treated rain water through Handpump" for Govt. of Uttarakhand, 2023



- "Pani Ki Kahani" for Schools and Community, 2021
- ➤ "Implementation Support Agency Role & Activities in Jal Jeevan Mission" for NGOs, 2022
- ➤ "Jal Jeevan Mission PRIs, VWSCs and Community", 2023
- > "Operation & Maintenance of Water & Sanitation Schemes" for Himmothan Pariyojana, 2013
- > "Revival of Traditional water bodies for source sustainability" for Mid management officials, 2023
- ➤ "Springshed Management, Direct Injection for long term source sustainability" for Mid management officials, 2023
- > "Operation & Maintenance of water schemes" for Mid management officials, 2023
- ➤ "Grey Water Management, Nature based solutions and Circular Economy" for Mid management officials, 2023
- "WASH Services during Disaster & Emergency" for Mid management officials, 2023
- Article in **Jal Jeevan Samvad** National Magazine of Govt. of India on "Demystifying Jal Jeevan Mission, 2023; "Participatory Planning, Implementation, O&M", 2021; and "Long term Source Sustainability, recharge and management of drinking water sources", 2021
- > "Operation & Maintenance Manual for water & sanitation services", 2013
- > "Blue Pages" with IRC, Netherland, 2006

Title of Study & Research	Description
Principal Investigator of Social and	Conducting social and environmental audit, impact evaluation
Environmental Audit of STPs and I&Ds	of sewage treatment plans in District – Dehradun, Tehri,
under Namami Gange Programme	Haridwar and Nainital under Namami Gange Program
Co- Principal Investigator of National Mission on Himalayan Studies, Ministry of Environment, Forest & Climate Change, Government of India "Affordable Climate- resilient Water Supply Infrastructure Prototype for Indian Himalayan Region"	Design low-cost, climate-resilient water supply infrastructure prototype and pilot I in the districts of Pauri, Rudraprayag, Chamoli, Tehri, and Uttarkashi, Uttarakhand
Direct Injection of Rainwater through Handpump for recharging of aquifers in Mountainous Areas (Patented)	Innovative technology of aquifer recharging developed. 36 Cr. Sanctioned to GoUK by GoI under Jal Shakti Abhiyan 2023 for this technology scaleup
Innovative 365 Days Model of Rooftop	Rooftop rain water being used in toilets of various buildings
Rain Water Harvesting for non-potable uses (Patented)	for all round the year and remaining water used for recharging of ground water
Individual Rooftop Rainwater Harvesting of 7 KL capacity	600+ Individual Rooftop rainwater harvesting tanks constructed where water sources not available
Innovative Technologies for tapping of	Developed Disaster prone water supply technologies –
Spring & Stream in Mountainous Area	Uttaranchal Koop for stream and Steel Intake for Spring
Health & hygiene benefits through WATSAN	To study the sustainable health & hygiene benefits



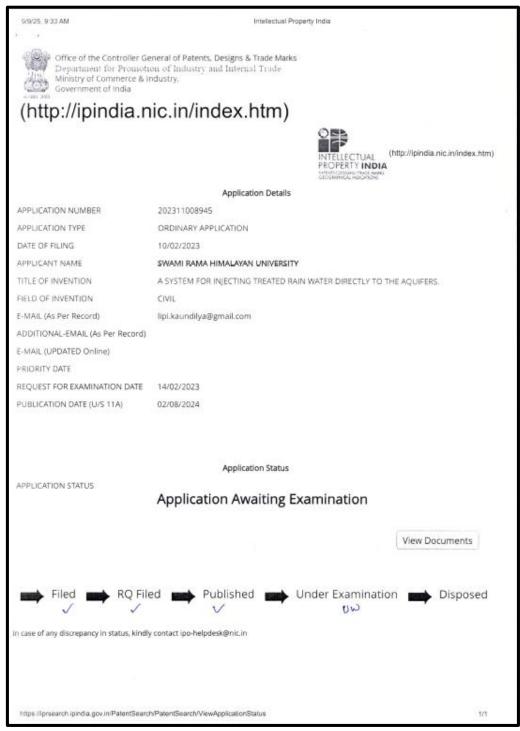
Action Research on Solar Pumping water supply scheme	 186 mt. height single lift solar pumping water scheme from Spring, first of its kind in Uttarakhand at Chureddhar, Tehri Garhwal 17.5 HP Tubewell solar pumping water scheme for 3000+ beneficiary at Jasuvawala, Haridwar 3 other solar pumping schemes in Pauri Garhwal
Geo-hydrology based Springshed	Science based concept of spring recharge using traditional
Management	wisdom
Open Defecation Free Verification (Evaluation) Study in 5 Districts of U.P.	ODF Verification Study was conducted in 96 Gram Panchayats of U.P. to find out ODF Status and to ensure improved sanitation behaviour and practices
Health Benefit Study of World Bank funded	Impact assessment through implementation of water &
Swajal Project	sanitation project
Impact Assessment Study	Impact assessment (social, technical, financial, environmental) on community through implementation of Swajal project
Project Implementation Plan	Pre-feasibility, Planning & Implementation guideline of water and sanitation project
Information Needs Assessment	Identifying information needs of various stakeholders under WATSAN sector
Institutional Mapping Exercise and Publishing Blue Pages	Blue book of the water & sanitation institutes





Patent application filed by Swami Rama Himalayan University for the innovation titled "Rooftop Rain Water Harvester"





Patent application filed by Swami Rama Himalayan University for the innovation titled "A System for Injecting Treated Rain Water Directly to Aquifers"

6.2Water Consumption per person Year

6.2.1 Water Consumption Tracking Year: 2024

The University has established comprehensive and transparent water-consumption monitoring aligned with CGWA standards. The system captures real-time water-use data across the full campus using telemetry-enabled piezometers, supplemented by government-supplied water data. With publicly available information through IoSense, SRHU demonstrates a strong institutional commitment to sustainable water resource management and transparent reporting.



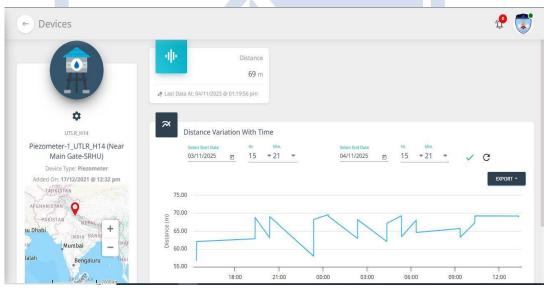
Two **piezometers equipped with telemetry** have been installed on campus to continuously monitor groundwater levels.

- Recorded groundwater level (2023-24): **68.05 m**
- Average daily water withdrawal from tubewells: 1,016 m³/day
- Fresh water supplied through the public water system: 50 m³/day

Water consumption data is recorded automatically and stored in the IoSense telemetry system. The setup allows real-time monitoring and accurate reporting of total water use, withdrawal rates, and trends over time.



Piezometer-1 installed at the main gate of the University, equipped with telemetry for continuous monitoring of groundwater levels as part of the campus water management and sustainability initiative



Automated water level monitoring through the IoSense telemetry system at SRHU ensures efficient tracking and sustainable water resource management

Volume of water used in the university: Inbound (treated/ extracted water)

Main source of water in SRHU are tube wells and municipal supply. The percentage of municipal supply is very low. The University records 610,924 m³ of total inbound water for 2024 (including treated, recycled, and extracted sources), monitored in real time through telemetry-based piezometers. All water sources comply with CGWA guidelines and BIS 10500 potable water standards, ensuring sustainable and safe usage across the entire



campus serving over 6,000 people daily. This continuous monitoring ensures that the University aligns with goals of SDG 6: Clean Water and Sanitation.

Table 5: Annual water intake (in cubic meters) from various sources at SRHU for the year 2023–24, highlighting the institution's reliance on treated sewage water and groundwater as primary water sources

Source of Water	Annual Water Intake in m ³ (2023-24)
Fresh Water Supply (UJS)	18250
Treated Sewage Water	220424
Ground Water Withdrawal	371155
Private Water Tankers	-
Rainwater Harvesting	1095
Other sources	-



Water quality test report of STP outlet (1 MLD), confirming compliance with CPCB guidelines for pH, TSS, BOD, COD, and oil and grease parameters



Table 6: Annual water consumption data for Swami Rama Himalayan University during 2023–24, showing total water usage across process, domestic, and garden applications

Year		Annual Water consumption							
		Quantity (m ³)							
	Process	Domestic	Total (Process+	Garden	Total				
	Trocess	Process Domestic	Domestic)	Garuen	Water consumption				
2023–24	247310	143190	390500	220424	610924				

Campus population

Campus population covers employees, students, patients in hospital (OPD & IPD) and employee families residing in the University campus.

Table 7: Details of daily and annual water consumption at the University for 2023–24, illustrating water usage across residential areas, hospital facilities, kitchen and laundry services, and offices

	Details of Water Consumption per day (2023-24)						
SN	Detail	Population	L/person/day	water consumption in litre			
1	Residential	2075	135	280125			
2	Hospital Beds	1200	450	540000			
3	Hospital OPD	1200	15	18000			
4	Kitchen & Laundry for 1200 Beds	1200	180	216000			
5	Office	350	45	15750			
		Total		1069875			

Annual water consumption= 390500 m³

Maintenance of water bodies and the water distribution system

SRHU ensures the proper maintenance of water bodies and the water distribution system within the campus to support sustainable water management. Key initiatives include:

- Periodic Cleaning and Desilting: Regular cleaning of water storage tanks, ponds, and recharge pits to prevent contamination and maintain water quality.
- Leakage Detection and Repairs: Timely identification and repair of leaks in pipelines to minimize water wastage.
- Water Quality Monitoring: Routine testing of water quality to ensure compliance with safety and health standards.
- Pipeline and Pump Maintenance: Regular inspection and servicing of pipelines, pumps, and valves to ensure uninterrupted water supply.
- Green Landscaping Practices: Incorporating sustainable landscaping techniques that reduce water consumption and promote groundwater recharge.
- Awareness Campaigns: Organizing awareness programs for staff and students on water conservation practices and distribution system management.





Tubewell No 1 with the distribution pipe



Tubewell No 2 with the distribution pipe



Tubewell No.3



Pipelines for the distribution through

6.3 Water Usages and Care

SRHU promotes responsible water usage through efficient supply management, conservation practices, and recycling initiatives. Rainwater harvesting and treated wastewater reuse help reduce freshwater dependency across the campus and hospital facilities. Water-efficient fixtures and regular maintenance minimize wastage and ensure sustainability. SRHU is committed to preserving water resources through awareness, monitoring, and eco-friendly practices while promoting SDG 6: Clean Water and Sanitation.

6.3.1 Wastewater Treatment

SRHU treats wastewater through a modern Sewage Treatment Plant (STP) to ensure safe and eco-friendly disposal. The treated water meets environmental standards and is reused for landscaping, gardening and flushing. This reduces the demand for fresh water and supports sustainable campus operations. SRHU emphasizes responsible wastewater management to protect the environment and conserve resources.

• Existence of process

Sewage Treatment Plant/ETP

- Capacity of STP is 1 MLD and ETP of 90 KLD
- ➤ 6,10,000 litre water is used for irrigation of green belt of 1,60,800 sqm area.
- > The manure produced through STP is utilized in green belt



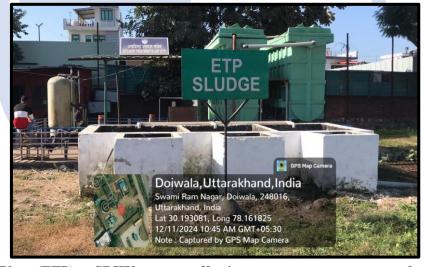
➤ The STP inlet and outlet water is tested every six months from NABL accredited laboratory and found within norms.

RO reject water being used in toilet and laundry

> 32.85 Lakh litre water saved annually



Sewage Treatment Plant at SRHU ensuring sustainable wastewater management and water resource protection for a healthier environment



Effluent Treatment Plant (ETP) at SRHU, ensures effective wastewater treatment and environmental sustainability

Evidence: Click here

6.3.2 Preventing Water System Pollution

SRHU prevents water system pollution through regular monitoring of water quality and strict control of wastewater discharge. Oil traps, sedimentation chambers and proper biomedical waste segregation prevent contaminants from entering the water system. Hazardous chemicals from laboratories and hospitals are treated separately before disposal. Awareness programs and maintenance audits ensure pollution-free and sustainable water management on campus. SRHU has a well-established process to prevent water system pollution on campus. Wastewater is treated through an operational STP before reuse or discharge, and oil traps, sedimentation units, and chemical neutralization systems prevent harmful contaminants from mixing with water sources.



Biomedical and laboratory waste is handled separately as per regulatory norms. Regular monitoring and maintenance ensure compliance with environmental standards and protect surrounding water bodies.

For more information:

https://srhu.edu.in/policies-guidelines/policy-for-bio-medical-waste-management-2/https://srhu.edu.in/policies-guidelines/policy-for-general-waste-conservation/https://srhu.edu.in/sdg/#about-SDG-cell



Water quality test report of STP outlet (1 MLD), confirming compliance with CPCB

6.3.3 Free Drinking Water Provided

The University provides free and safe drinking water through purified water dispensers installed across academic blocks, hostels, libraries and administrative areas. Regular testing and maintenance of water purification systems ensure compliance with health and hygiene standards. RO-based water dispensers and purified water stations are installed at various locations. Drinking water facilities are available in academic blocks, hostels, hospital areas, and public spaces for students, staff, patients, and visitors. Water quality is regularly tested to ensure hygiene and safety. The provision of accessible drinking water reflects SRHU's commitment to health, welfare, and sustainability aligning with goals of SDG 6: Clean Water and Sanitation.

There are a total of **86** water purifier present in the University.





Free drinking water facility equipped with purifiers installed at key locations across the University to ensure safe and clean drinking water for students, staff, and visitors aligning with SDG 6: Clean Water and Sanitation

Evidence: https://srhu.edu.in/sdg/#about-SDG-cell

6.3.4 Water Conscious Building Standards

SRHU does have formal water-conscious standards and policies and has implemented campus measures that match "water-conscious building" practice (rainwater harvesting, recharge pits, STP/treated-water reuse, storage tanks, awareness & monitoring) that contributes to SDG 6: Clean Water and Sanitation.



Rainwater Harvesting & Ground Water Recharging

- > The SRHU receive an annual rainfall of 2073.3 mm. (www.dehradun.nic.in)
- > The rainwater poured over different surface of the SRHU is as follows:-
 - Roof top $-71386 \times 2.0733 \times 0.85 = 1,25,803.9 \text{ cum}$
 - Road / paved area $-107711 \times 2.0733 \times 0.75 = 1,67,487.9 \text{ cum}$
 - Open area $-83425 \times 2.0733 \times 0.2 = 34,593 \text{ cum}$
 - Green belt $-160800 \times 2.0733 \times 0.15 = 50,007.9 \text{ cum}$
- > Total volume available annually for rain water harvesting is 3,77,892.7 cum
- ➤ 13 Recharge pits & 2 Borewell recharge constructed (796.73 cum)

365 Days Roof Top Rainwater Harvesting Storage

SRHU has installed an innovative 150 KL underground rooftop rainwater harvesting tank with an advanced filtration system, designed for 3,000 litres/day usage. The harvested water is utilized in 119 toilets and 138 bathroom taps of the Nursing and Medical Colleges, saving about 9.45 lakh litres annually and contributing 1.57 crore litres towards groundwater recharge.



Underground water storage tank with a 150 KL capacity at the University, designed to collect and store rainwater for groundwater recharge and sustainable water management



Rainwater harvesting pit installed at Swami Rama Himalayan University, as part of the campus initiative to conserve water and promote sustainable groundwater recharge practices.



6.3.5 Water Conscious Planting

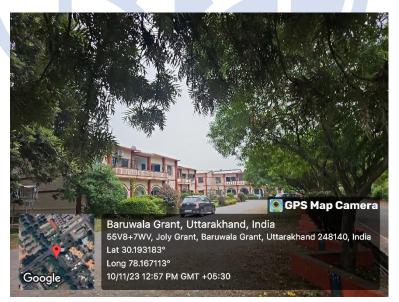
SRHU practices water-conscious planting by using native Himalayan species and drought-tolerant shrubs in landscaping areas, supported by drip irrigation and mulching to minimize water usage in alignment with SDG 6: Clean Water and Sanitation.

Green Campus and Plantation

- > SRHU has a green belt area of about 1,60,800 sqm, which is planted with different variety of trees numbering 1468.
- ➤ Plantation drive of 3300 trees saplings in association with State Forest Dept., Govt. of Uttarakhand in September 2022. (For more information)
- Neem (Azadirachta indica), Amaltas, Bougainvillea, Lantana camara, Vetiver (Khus grass), Aloe vera, Jatropha, Indian Carpet Grass (Axonopus compressus) and Kachnar (Bauhinia variegata) etc (<u>For more information</u>).
- > SRHU has its own horticulture nursery which maintain green area with 40 staff.

Biodiversity

- > SRHU is significantly rich in faunal diversity. Significant number of bird nests can be seen at many places.
- ➤ Birds- 15, Reptiles- 1, Amphibians- 2, Butterfly- 22
- ➤ Floral species- 125



Snippets of landscaping by water-conscious plantation, featuring drought-resistant and native plant species to promote sustainable landscaping and efficient water use on campus





Snippets of landscaping by water-conscious plantation, featuring drought-resistant and native plant species to promote sustainable landscaping and efficient water use on campus

6.4 Water Reuse

SRHU actively promotes reuse and recycling of water as a key part of its sustainable-campus strategy. Through policy, infrastructure, and continuous monitoring, the university ensures that reclaimed and harvested water is efficiently used for landscaping, flushing, and other non-potable applications—significantly reducing reliance on freshwater sources.

6.4.1 Water Reuse Policy

SRHU has a formal Policy for Water Conservation approved by the University's Board of Management. The policy establishes a campus-wide framework for responsible water use, conservation, recycling, and recharge, directly aligned with UN SDG 6 (Clean Water and Sanitation). Key provisions:

- Installation of low-flow fixtures, dual-flush toilets, and waterless urinals.
- Operation and maintenance of STPs (1 MLD) and ETPs (90 KLD) with treated-water reuse for gardening, cleaning, and flushing.
- Integration of rainwater-harvesting systems in all new buildings, including a 365-day rooftop model and recharge pits.
- Smart irrigation using drip and moisture-sensor technology.
- Annual awareness drives, faculty training, and community outreach on water conservation.
- Real-time monitoring through digital dashboards and water meters; publication of annual water-usage reports

Evidence: https://srhu.edu.in/policy-for-water-conservation/



Policy for Water Conservation

POLICY FOR WATER CONSERVATION

Approved	Board of Management on 12th January 2019
Notification Notified by Registrar vide notification No. SRHU/Reg/OO/2019-04 (i) dated 15th January 2019	
Reviewed / Revised Board of Management on 29th March 2022	
Notification Notified by Registrar vide notification No. SRHU/Reg/OO/2022-58 (i) dated 5th April 2022	
Next Review	2025-26

1. Short Title & Commencement

- 1.1 This Policy shall be called the "Policy for Water Conservation" of Swami Rama Himalayan University.
- 1.2 This Policy shall be deemed to have come into force from the date of approval of the Board of Management of the University.

2. Purpose

This policy establishes the framework for sustainable water management at SRHU. It provides guidelines for responsible usage, conservation, recycling, and recharge practices to ensure long-term sustainability of water resources on campus.

SRHU acknowledges its ecological responsibility and aligns its efforts with the UN Sustainable Development Goal 6 (Clean Water and Sanitation). Through this policy, SRHU pledges to:

- 2.1 Promote a culture of water mindfulness and responsible use
- 2.2 Optimize water conservation and management practices in academic, healthcare, residential, and outdoor areas.
- 2.3 Foster awareness through education, research, and community engagement programs.
- 2.4 Contribute to the environmental well-being of the region.

3. Scon

"Policy for Water Conservation" document outlining the institution's commitment to sustainable water management, responsible usage, and alignment with SDG 6: Clean Water and Sanitation

6.4.2 Water Reuse Measurement

At SRHU, water reuse measurement is systematically carried out through metered systems that monitor the quantity of treated wastewater and harvested rainwater being reused across the campus. The treated water from the sewage treatment plant is measured and utilized for irrigation, toilet flushing, and other non-potable purposes. Regular analysis of daily and monthly data helps assess the effectiveness of reuse practices and optimize water resource management. This continuous monitoring ensures efficient utilization of reclaimed water, reduces dependence on freshwater sources, and supports SRHU's commitment to Clean Water and Sanitation





Red-marked tap supplying treated wastewater from the sewage treatment plant, promoting sustainable water reuse for landscaping and greenery maintenance



Recycling of water from STP for landscaping aligns with Sustainable Development Goals



Sensor activated scrub station aiding in water conservation





Waterless urinals present at different locations across the University

365 days Roof Top Rainwater Harvesting Storage (Patented)

- Innovative 150 Kl Rooftop rainwater harvesting underground tank with advance filtration unit
- Tank size designed for consumption of 3000 litre per day
- Being used in 119 toilets & 138 bathroom taps of Nursing College, Medical College
- 9.45 Lac litre being used in toilets and 1.57 Cr. Litres for ground water recharging

Patent application filed by Swami Rama Himalayan University for the innovation titled "Rooftop Rain Water Harvester"







Underground water storage tank with a 150 KL capacity at the University, designed to collect and store rainwater for groundwater recharge and sustainable water management

6.5 Water in Community

Swami Rama Himalayan University (SRHU), through its Key Resource Centre (KRC) under the Jal Jeevan Mission (JJM), has played a transformative role in building the technical and managerial capacities of government officials, engineers, and community representatives working in the water and sanitation sector. The University has successfully conducted 15 batches of three-day residential training programs across India, training 698 engineers, including Executive Engineers, Assistant Engineers, and Junior Engineers from multiple states. These training programs addressed critical themes such as the direct injection of treated rainwater into aquifers, revival of natural springs and springshed management, operation and maintenance of water supply systems, revival of traditional water bodies for source sustainability, greywater management (reduce, reuse, recycle, and recharge), and the management of WASH services during disasters with a focus on climate-resilient systems promoting SDG 6: Clean Water and Sanitation.

At the grassroots level, SRHU has conducted extensive Nyay Panchayat-level training programs in Dehradun, Haridwar, and Rudraprayag districts of Uttarakhand under the Jal Jeevan Mission. These programs covered 109 Nyay Panchayats, engaging 5,492 participants, including members of Village Water Sanitation committees (VWSCs), Panchayati Raj Institution (PRI) representatives, ASHAs, and Anganwadi workers. The trainings enhanced community ownership in rural water supply schemes, strengthened source sustainability, and promoted hygiene management at the local level, ensuring active community participation in water governance while promoting SDG 6: Clean Water and Sanitation.

6.5.1 Water Management Educational Opportunities

Through its WATSAN Department, SRHU has implemented a wide range of Integrated Water Resource Management (IWRM) and environmental initiatives across more than 550 villages in Uttarakhand and other states. These initiatives include source recharge and rejuvenation, rainwater harvesting, water quality monitoring, revival of traditional water bodies, and community-based awareness programs on sustainable WASH practices. The University has also emphasized environmental and natural resource management (NRM), linking traditional wisdom with scientific approaches to create practical models for sustainable water management.

In addition, SRHU regularly organizes community awareness and capacity-building programs to strengthen water conservation and sanitation practices. These include workshops, field demonstrations, and practical training



sessions on springshed management, rainwater harvesting, source sustainability, wastewater reuse, and WASH-related behavioral change. The University also conducts public engagement campaigns during observances such as World Water Day and World Environment Day, encouraging active participation from students, rural stakeholders, and the general public.

Through these multi-dimensional interventions, SRHU has created a measurable and lasting impact in the Himalayan and adjoining regions. The University has positively transformed more than 550 rural communities, improving access to safe water and sanitation, empowering local women, youth, and Panchayati Raj Institutions, and developing replicable models for source sustainability, rainwater harvesting, and wastewater recycling. These initiatives have significantly strengthened water security, community resilience, and climate adaptation across vulnerable mountain ecosystems, establishing SRHU as a leading model institution in community-centered water management and sustainable development.

Table 8: SRHU initiatives under SDG 6- Clean Water and Sanitation: Building capacity for sustainable water management through training and community engagement

SN	Program Type	Location / Coverage	Duration	Participants Trained	Key Participants
1	KRC Training under Jal Jeevan Mission (JJM)	Across multiple states of India	15 batches, 3- day residential each	698 engineers (Executive, Assistant & Junior Engineers)	Government engineers & technical staff
2	Nyay Panchayat Level Training	Dehradun, Haridwar & Rudraprayag (Uttarakhand)	Conducted at 109 Nyay Panchayats	5,492 community participants	VWSC members, PRI representatives, ASHAs, Anganwadi workers
3	Community Awareness & Capacity Building	550+ Villages (Uttarakhand & other states)	Ongoing throughout the year	Local community groups	Rural households, women & youth

The Key Resource Centre (KRC) under HIHT organized three training programs focusing on the direct injection of treated rainwater for aquifer recharge, the revival of springs, and springshed management. These programs were held in West Bengal, Uttarakhand, and Himachal Pradesh, with a total of 122 mid-level engineers participating. The main objective of these training sessions was to raise awareness among Public Health Engineers about the integrated issues of rural water supply schemes and water resource management. The training emphasized innovative methodologies for:

- Direct injection of treated rainwater into aquifers
- Operation and Maintenance of water supply systems, Utility approach & tariff collection mechanism
- Revival of Traditional Water Bodies for Source Sustainability
- Grey water management: Reduce, Reuse, Recycle and Recharge for enhancing water use efficiency
- WASH Services during Disaster and Emergencies and Ensuring Climate Resilience System

The programs aimed to build participants' capacities in these areas, equipping them with skills and knowledge to implement spring-based water supply systems. These systems are designed to be safe, reliable, and effective



for communities living in mountainous regions, ensuring sustainable water resources and improved water management.

- 1. Training on Operation and Maintenance of Water Supply Systems, Utility Approach & Tariff Collection Mechanism: Three training programs were conducted on the Operation and Maintenance (O&M) of Water Supply Systems, focusing on utility approaches and tariff collection mechanisms. These programs took place in Sikkim, Andaman & Nicobar Islands, and Lakshadweep Islands, with a total of 152 mid-level engineers' participating. The primary objective was to address cross-cutting issues related to rural water supply schemes and water resource management, specifically focusing on:
 - The operation and maintenance of water supply systems
 - Utility approaches to water management
 - Tariff collection mechanisms

Participants were educated on O&M practices in accordance with the 73rd Amendment Act and reforms in rural drinking water supply. The training also covered disinfection systems for potable water supply, enhancing participants' understanding and skills in managing safe and effective water supply systems.



Training on Operation and Maintenance of Water Supply Systems in progress

2. Training on Revival of Traditional Water Bodies for Source Sustainability: Three training programs were held on the Revival of Traditional Water Bodies for Source Sustainability, targeting mid-level engineers from Kerala, Maharashtra, Himachal Pradesh, Uttarakhand, and Gujarat. A total of 118 engineers participated in these sessions. The main objectives of the training were to highlight the crosscutting issues related to rural water supply schemes and water resource management and focus on the revival of traditional water bodies for ensuring the sustainability of water sources. The training also covered the processes involved in the recharge of watersheds, traditional water bodies and structures used for recharging and reviving these water bodies. These programs aimed to enhance participants' knowledge and capabilities in managing and conserving traditional water bodies, contributing to long-term water source sustainability.





Participants during revival of traditional water bodies for sustainability

- 3. Training on Grey Water management: Reduce, Reuse, Recycle and Recharge for enhancing water use efficiency (Circular economy and net-zero concept), Nature based Solutions and Technologies for Grey Water Management: Three training programs were conducted on Grey Water Management, focusing on the principles of reducing, reusing, recycling, and recharging grey water to enhance water use efficiency. The trainings were conducted in Dadar & Nagar Haveli and Daman & Diu, Kerala, and Goa, with a participation of total of 157 mid-level engineers. The training covered:
 - Basics and Issues of Grey Water Management: Understanding the fundamentals and the challenges associated with grey water management within the context of the Jal Jeevan Mission.
 - Need for Grey Water Treatment: Criteria for treatment, use of technologies, pollutant levels, and the impact of using undertreated water.



Participants actively participating during training on Grey Water management

4. Training on WASH Services during Disaster and Emergencies and Ensuring Climate Resilience System: Training programs on WASH Services during Disasters and Emergencies and ensuring Climate Resilience Systems were conducted in Madhya Pradesh, Uttarakhand, and Sikkim, with a total of 149 mid-level engineers participating.

The primary objectives of these training sessions were to:

- Plan and Prepare: Develop strategies for managing WASH services during disasters and emergencies.
- Mitigation Measures: Implement measures to mitigate the impact of such events on water, sanitation, and hygiene services.
- Ensure Climate Resilience: Enhance the resilience of WASH systems to climate change and environmental challenges.

The programs aimed to improve participants' capabilities in planning and implementing effective WASH services in crisis situations, ensuring that systems are robust and adaptable to changing climate conditions.



Table 9: Summary of L2 Trainings undertaken by SRHU at a Glance

State	Direct injection treated water aquife rechar revival spring Spring Manag	on of l rain in r ge, l of s &	Operation and Maintenance of water supply systems, Utility approach & tariff collection mechanism	Revival of Traditional Water Bodies for Source		Grey water management: Reduce, Reuse, Recycle and Recharge for enhancing water use efficiency	WASH Services during Disaster and Emergencies and Ensuring Climate Resilience System	Total
A & N Island			51					51
Dadra Nagar Haveli & Daman Diu						52		52
Gujarat				54		7		54
Goa						53		53
Himachal Pradesh	37			37				74
Kerala				4		52		56
Lakshadweep			51					51
Madhya Pradesh							51	51
Maharashtra				2				2
Sikkim			50				55	105
Uttarakhand	34			21			43	98
West Bengal	51							51
Total	122		152	118		157	149	698

Nyay Panchayat level Trainings on JJM to PRIs & VWSCs/ ASHAs & AWWs in 3 districts of Uttarakhand Within the state of Uttarakhand, trainings for 83 Nyay Panchayat in Dehradun, Haridwar and Rudraprayag districts were conducted. 3973 functionaries including members of the Village Water Sanitation Committee.

districts were conducted. 3973 functionaries including members of the Village Water Sanitation Committee (VWSC) and representatives of the Panchayati raj Institutions participated. In Uttarakhand, training sessions on the Jal Jeevan Mission (JJM) were conducted during 2023-24 at the Nyay Panchayat level across three districts: Dehradun, Haridwar, and Rudraprayag. A total of 109 Nyay Panchayats were involved in these sessions. The training focused on:

Village Water Sanitation Committees, Panchayati Raj Institutions, ASHAs, AWWs

A total of 5,492 functionaries participated, including members of VWSCs and representatives from PRIs. The training aimed to enhance the knowledge and skills of these key stakeholders in implementing and managing water and sanitation services at the grassroots level, supporting the overall objectives of the Jal Jeevan Mission. Level-3 (Nyay Panchayat level) initiative, comprehensive trainings were conducted on Jal Jeevan Mission (JJM) for Panchayati Raj Institution (PRI) members, Village Water and Sanitation Committees (VWSCs), ASHAs, and



Anganwadi Workers (AWWs). The main objective of these trainings was to enhance awareness and build the capacity of grassroots functionaries on water quality, source sustainability, operation and maintenance of water supply systems, and community participation. These sessions helped strengthen local ownership and ensure the long-term success of the Jal Jeevan Mission at the village level.

Table 10: Summary of L3 Nyay Panchayat level Trainings on JJM to PRIs & VWSCs/ ASHAs & AWWs in 3 districts of Uttarakhand at a Glance

No. of Batches	Total Participants
83	3973



Glimpses of activities undertaken by SRHU for Nyay Panchayat level



6.5.3 Off-Campus Water Conservation Support

Under the *Jal Jeevan Mission (JJM)*, extensive efforts were undertaken during the planning, implementation, and post-implementation phases across 60 villages in Dehradun district, Uttarakhand. The core objective of the mission was to ensure access to safe, reliable, and adequate drinking water for every rural household through the creation of sustainable and community-managed water supply systems. The initiative emphasized strengthening local water governance, community ownership, and the long-term sustainability of rural water resources.

Swami Rama Himalayan University (SRHU) played a pivotal role in facilitating various components of the mission. The university led the process of forming and strengthening *Village Water and Sanitation Committees* (*VWSCs*) - key institutions at the village level responsible for the management, operation, and maintenance of local water supply systems. These committees were established with active participation from community members, ensuring inclusivity and local accountability. To support the effective functioning of VWSCs, SRHU organized a series of capacity-building and training programs for Panchayati Raj Institution (PRI) representatives, ASHA workers, and Anganwadi workers. The training sessions focused on scheme management, water safety protocols, record-keeping, hygiene promotion, and community engagement strategies.

In addition to institutional strengthening, SRHU also contributed extensively to the technical planning and implementation aspects of JJM. The university supervised water source mapping and conducted detailed sanitary surveys to identify sustainable water supply options suited to the local terrain and hydrogeological conditions. These exercises provided critical data for planning water schemes and identifying contamination risks. Regular water quality monitoring was ensured through the use of *Field-Testing Kits (FTKs)*, enabling communities to assess the safety of their drinking water and take timely corrective measures.

Further, geo-tagging of all water sources and supply infrastructure was carried out to promote transparency, enhance accountability, and facilitate digital record-keeping. This initiative ensured that every stage of implementation could be tracked and monitored effectively, supporting evidence-based decision-making and long-term maintenance planning.

Through these multifaceted interventions, SRHU significantly strengthened rural water governance systems and contributed to improving the quality, reliability, and efficiency of water service delivery in the project area. The university's collaborative approach/combining community participation, technical expertise, and institutional support /helped advance the mission's overarching goal of "Har Ghar Jal," ensuring that every rural household has access to functional tap water connections.

The interventions also promoted community ownership, encouraging beneficiaries to take an active role in maintaining the water supply infrastructure. Regular awareness campaigns were organized under *Social and Behavioural Change Communication (SBCC)* to educate rural households on the importance of water conservation, sanitation, and hygiene. These campaigns fostered behavioural transformation, particularly regarding water use efficiency, greywater management, and environmental protection.

Major activities conducted under the Jal Jeevan Mission include:

- Conducting *Household Baseline Surveys* to assess existing water supply conditions and household requirements.
- Formation and strengthening of *Village Water and Sanitation Committees (VWSCs)*.
- Opening of VWSC bank accounts to enable transparent fund management.



- Organizing training and capacity-building programs for VWSC members, ASHA workers, Anganwadi staff, and PRI representatives.
- Conducting Sanitary Surveys, promoting Greywater Management, and facilitating Functional Household Tap Connections (FHTCs).
- Implementing *Social and Behavioural Change Communication (SBCC)* activities to promote awareness on hygiene, sanitation, and water conservation.
- Regular water quality testing using *Field Testing Kits (FTKs)*.
- Conducting hygiene and sanitation awareness campaigns in villages.
- Facilitating community contributions in the form of cash and labour for local ownership.
- Supporting the *Operation and Maintenance (O&M)* of rural water supply schemes for long-term sustainability.

Table 11: List of villages covered by SRHU under Jal Jeevan Mission (JJM)

S.N.	Block	Gram Panchayat	Revenue Village	
1		Masak	Masak	
2		Kunain	Kunain	
3		Kullalli	Sainj	
4		Begi	Bagni	
5		Kulha	Kulha	
6		Koti Kanaser	Koti Kanaser	
7		Hartad Santad	Hartad Santad	
8		Maletha	Maletha	
9		Maleula	Dunwa	
10		Mothi	Mothi	
11		Dhouhra Pudiya	Dhouhra Pudiya	
12		Mindal	Mindal	
13		Jadi	Jadi	
14		Jadi	Sijla	
15	Chakrata	Kandher	Kandher	
16	Chakrata	Kandiei	Indroli	
17		Samog	Samog	
18		Dabla	Dabla	
19		Kunain	Kunain	
20		Kunna	Kunna	
21		Khabau	Khabau	
22		Burayala	Jagthan	
23		Mailot Kwanu	Mailot Kwanu	
24		Chatra	Chatra	
25		Chaua	Hanol	
26		Bulhad	Bulhad	
27		Mehrawna	Mehrawna	
28			sirwa	
29		Lakhamandal	Lakhamandal	
30		Raigee	Sedia	



S.N.	J. Block		Gram Panchayat	Revenue Village	
31			Tenna	Tyuna	
32			Tyuna	Mangtad	
33	1		Radu	Radu	
34			Purtad	Purtad	
35			Mungad	Mungad	
36			Sujau	Sujau	
37				Bagna	
38			Bagna	Bhandrauta	
39				Sarsona	
40				Kaha Nehra Punah	
41			Kaha Nehra Punah	Balnu	
42				Bhauda	
43		Khani		Khani	
44	Kalci	Kalsi	Kildili		Kuitha
45	Kaisi	Khataar		Bhugtaar	
46			Kiiataai	Samaya	
47			Lakhwad	Lakhwad	
48			Masrad	Masrad	
49			Wasiau	Lalau	
50				Chunau	
51			Sakrol	Gadur Sakrol	
52				Khadeen	
53			Rikholi	Rikholi	
	5455Sahaspur		Bhitarli	Bhitarli	
		Sahaspur		Kotda Kanlyanpur	
56			Kotda Kanlyanpur	Birsani	
57				Nahad	
58	Vikas Nagar		Tauli	Tauli	
59			Pashta	Pashta	
60	Raipur		Chhamroli	Chhamroli	

The village data has been provided by the Govt. of India on Jal Jeevan Mission portal which can be accessed through https://ejalshakti.gov.in/jjmreport/JJMIndia.aspx.





Glimpses of activities undertaken by the University under Jal Jeevan Mission

Through these concerted efforts, Swami Rama Himalayan University has made a significant contribution toward realizing the vision of the Jal Jeevan Mission- ensuring "Har Ghar Jal" through sustainable, inclusive, and community-driven rural water management systems.



6.5.4 Sustainable Water Extraction on Campus

Waste water recycling systems

SRHU has implemented wastewater recycling systems to promote efficient water use and minimize wastage. Key aspects include:

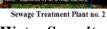
- 1. **Wastewater Treatment Plants:** Advanced systems are used to treat wastewater generated within the campus, ensuring it is safe for reuse.
- 2. **Reuse for Irrigation:** Treated water is utilized for irrigating gardens and green spaces, reducing the demand for fresh water.
- 3. **Sanitation Systems:** Recycled water is used for flushing toilets and cleaning purposes, conserving potable water.
- 4. **Monitoring and Maintenance:** Regular monitoring ensures the quality of recycled water, while maintenance practices keep the systems efficient and operational.
- 5. **Awareness Programs:** Workshops and awareness drives educate students and staff about the importance of water recycling and its role in sustainability.





Sewage Treatment Plant (STP)







Sewage Treatment Plant no.

6.5.5 Cooperation on Water Security

A MOU signed between Swami Rama Himalayan University (SRHU) and ICIMOD (International Centre for Integrated Mountain Development) with the objective of jointly developing, testing, and scaling innovative solutions for spring-shed management and other nature-based solutions (NbS). Furthermore, this partnership seeks to facilitate knowledge exchange and cooperation among experts across the Hindu Kush Himalayan (HKH) region, promoting the adoption of advanced technologies and best practices for sustainable water and ecosystem management.

Evidence: MOU SRHU-ICIMOD





Letter of Intent (LoI) signed between SRHU and the International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal, for collaboration on co-development and scaling of spring-shed water management



6.5.6 Promoting Conscious Water Usage on Campus

Rainwater harvesting

- SRHU actively promotes sustainable water management practices through rainwater harvesting systems implemented across the campus. Key features include:
- Collection Systems: Rooftop rainwater collection structures installed in multiple buildings to capture and store rainwater.
- **Storage Tanks:** Large underground and overhead storage tanks to preserve harvested water for non-potable uses such as irrigation and cleaning.
- **Groundwater Recharge:** Recharge pits and trenches to replenish groundwater levels and enhance aquifer sustainability.
- Water Conservation Awareness: Regular workshops and awareness campaigns to educate students and staff about the importance of rainwater harvesting.
- Sustainability Monitoring: Periodic evaluations and audits to assess system performance and optimize water usage efficiency.
 - o Innovative 150 Kl Rooftop rainwater harvesting underground tank with advance filtration unit
 - o Tank size designed for consumption of 3000 litre per day
 - o Being used in 119 toilets & 138 bathroom taps of Nursing College, Medical College
 - o 9.45 Lac litre being used in toilets and 1.57 Cr. Litres for ground water recharging



Underground water storage tank with a 150 KL capacity at the University, designed to collect and store rainwater for groundwater recharge and sustainable water management

Waterless urinals

200 waterless urinals are installed in SRHU to save precious ground water One waterless urinal saves 1, 51,000 litre of water annually SRHU saves 3.02 Cr. litre water annually.





Waterless urinals installed at the University as part of its water conservation initiative

Sand Bottle in Cisterns

1 litre sand bottles placed in cisterns, 10 litre water saving assuming 10 flushes per day and 45.11 Lakh Litre water saved annually @ 1236 toilets x 10 time flush in a day.



Sand bottles placed in toilet cisterns across the University to reduce water usage per flush to improve conservation practice

Condensed water of AC units

1.20 Lakh litre water saved annually from AC condensed water, further more exploration will be continued.





Condensed water collected from air conditioning units is reused, saving water RO reject water

RO reject water being used in toilet and laundry and 32.85 Lakh litre water saved annually Scrub Station inside OTs are being used with sensor taps. Approx. 5 Lac litre water saved annually. RO reject water being used in toilet and laundry. 32.85 Lakh litre water saved annually



Scrub stations inside Operation Theatres (OTs) are equipped with sensor-based taps to minimize water wastage

Under its campus sustainability and hygiene initiatives, SRHU organizes awareness campaigns supported by pamphlet distribution, demonstrations, and interactive sessions to sensitize the university community on reducing water wastage and adopting efficient consumption habits. Leakage-proof campaigns are conducted periodically across hostels, laboratories, and administrative areas to identify and repair leakages, minimizing avoidable water loss. The University also celebrates World Water Day (For more information) and Swachhta Pakhwada (For more information) every year, encouraging active participation from all departments through rallies, exhibitions, poster competitions, and expert talks.





Posters displayed across University promoting awareness for water conservation











Various activities like pledge, rallies and nukkad natak under taken by the University to promote awareness of water conservation and management of waste during Swacchta Pakhwada

6.5.7 Promoting Conscious Water Usages in the Wider Community

The University is deeply committed to promoting sustainable and conscious water use beyond its campus, working directly with communities across India to raise awareness and build practical skills in water conservation and management. Through its Knowledge Resource Centre (KRC-HIHT), the University has carried out a series of field-based training and exposure visits across various states, including Uttarakhand, Himachal Pradesh, Gujarat, Kerala, Goa, Sikkim, West Bengal, Lakshadweep, Daman & Diu, and the Andaman & Nicobar Islands during 2023–2024. These visits were designed to give participants—from engineers and development professionals to local community leaders and members of Village Water and Sanitation Committees (VWSCs)—firsthand experience of how sustainable water management practices work on the ground. The programs covered a wide range of topics such as riverbank filtration, spring rejuvenation, greywater management, aquifer recharge, and the use of nature-based solutions for water sustainability.

In every location, participants interacted closely with local communities and VWSCs to learn about their challenges, solutions, and roles in maintaining water systems. These interactions helped bridge scientific knowledge with traditional wisdom and demonstrated how community participation is essential for long-term water security. Throughout these programs, the University emphasized the principles of Reduce, Reuse, Recycle, and Recharge (4R) and the broader ideas of circular economy and net-zero water management.

Participants also shared their learnings through group presentations and reflective sessions, strengthening peer-to-peer learning and reinforcing behavioural change towards responsible water use. By engaging communities across diverse regions of the country, SRHU has not only built technical capacity but also fostered a culture of awareness, responsibility, and stewardship for water resources. These initiatives reflect the University's strong commitment to UN SDG Target 6.B, which focuses on supporting and strengthening the participation of local communities in improving water and sanitation management.



1. Date: 04 December - 06 December 2023

State/UT: Dadra & Nagar Haveli and Daman & Diu

No. of Participants: 52

An on-field exposure visit was conducted at the Treatment Plant, Dunetha, Gram Panchayat Dunetha, Nani Daman, and along the Daman Ganga Riverbank at Patlara—Magarwada, Moti Daman, to explain Riverbank Filtration techniques. During the visit, participants also interacted with the community and Village Water & Sanitation Committee (VWSC). The field visit was facilitated by Er. H.P. Uniyal, Advisor, SRHU, along with other resource persons. After the field visit, all participants presented their learnings in front of the panel.

At the end of the training the training was concluded with participants' findings, learnings, and feedback of the training session along with certificate distribution ceremony. The training had been very interactive and full of exposure to participants which came forward during informal interactions and discussions with them. Participants appreciated the initiatives of KRC-HIHT for organizing training on the topic of grey water management: Reduce, Reuse, Recycle and Recharge for enhancing water use efficiency (Circular economy and net-zero concept), Nature based Solutions and Technologies for Grey Water Management.





Snippets from the training





2. Date: 10 January- 12 January 2024

State/UT: Goa

No. of Participants: 53

An on-field exposure visit was conducted to the Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) at Panjim. The visit was facilitated by Er. H.P. Uniyal, Advisor, SRHU, along with other resource persons.

The first session of the day was conducted by Dr. Tribhuwan Bisht on the concept of *Net Zero* and the *Circular Economy*. He discussed the Net Zero approach in greywater and wastewater management, strategies for achieving Net Zero, and the associated challenges and solutions.

Following this, Er. H.P. Unival conducted a session on *Innovative Technologies for Water Supply and their Operation and Maintenance*. He suggested various innovative techniques for groundwater recharge and source sustainability.

Dr. Tribhuwan Bisht further discussed different technological options for greywater management at both the household and community levels. At the household level, he explained options such as drainage, soak pits, and leach pits, while at the community level, he elaborated on systems like community soak pits, soak-away channels, 3-4 pit greywater treatment units, and wastewater stabilization ponds (WSP).

Subsequently, Er. H.P. Unival conducted another session on *Nature-Based Solutions and Technologies for Greywater Management*. He explained how nature-based technologies such as constructed wetlands and phytoremediation systems can be effectively used for managing greywater.



Snippets from the training





3. Date: 11 March- 13 March 2024 State/UT Covered: Uttarakhand

No. of Participants: 34

As part of the training program, field exposure visits were organized in Village Sarag, Block Bhatwari, District Uttarkashi, and Uttarakhand. The primary objective of the visit was to provide participants with hands-on learning and practical exposure to the implementation and functioning of the spring-based water supply scheme, which serves as a sustainable source of drinking water for rural communities in hilly regions. Participants observed the design, operation, and maintenance aspects of the scheme and gained insights into the scientific methods used for spring rejuvenation and groundwater recharge.

A major highlight of the visit was the demonstration of the *direct injection technique* for aquifer recharge, which involves injecting surface water directly into the aquifer through scientifically designed recharge wells. The participants learned how this approach helps in maintaining groundwater levels, improving water availability during dry seasons, and ensuring long-term source sustainability.

During the visit, experts and resource persons explained the hydrogeological considerations, technical designs, and community participation aspects required for the successful implementation of such projects. The participants also interacted with local community members and Village Water and Sanitation Committee (VWSC) representatives to understand their role in scheme operation, maintenance, and source protection. Overall, the field visit enhanced the participants' understanding of decentralized, community-driven, and sustainable water supply management practices suitable for hilly terrains like Uttarakhand.





Snippets from the training





4. Date: 12 October- 14 October 2023

State/UT: Kerala, Maharashtra & Uttarakhand

No. of Participants: 27

An on-field exposure visit was organized to various traditional water bodies located in the villages of Dehradun and Haridwar districts. The sites visited included a dried pond at the temple in Barkot Village, Suryadhar Lake and the spring source at Sheela in Chauki Village, Amrit Sarowar in Jogiwala Mafi Village (all in Dehradun District), and the Riverbank Filtration site on the Ganges in Haridwar. During the visit, Er. H.P. Uniyal, Advisor, SRHU, along with Mr. Soban Singh, Gram Pradhan, and Mr. Madan Sen, Executive Engineer, Uttarakhand Jal Sansthan, explained the historical significance of these traditional water bodies and the various initiatives undertaken for their conservation and revival. The visit provided participants with valuable insights into sustainable water management practices and community-led efforts for rejuvenating traditional water resources.



Snippets from the training





5. Date: 14 March- 16 March, 2024

State/UT: Uttarakhand No. of Participants: 43

Field exposure visits were organized in Village Pokhri, Block Agastmuni, District Rudraprayag, Uttarakhand, to provide participants with practical exposure to spring-based water supply systems and the method of direct injection for aquifer recharge. The visit aimed to enhance participants' understanding of sustainable water resource management practices in hilly regions, where springs serve as a primary source of drinking water. Participants observed the functioning of the spring-based water supply scheme, including source protection, collection, storage, and distribution mechanisms.

Experts and facilitators explained the technical and hydrogeological aspects of the direct injection method used for aquifer recharge; wherein surface water is directly injected into the aquifer through specially designed recharge wells. This method helps in maintaining groundwater levels, improving water quality, and ensuring water availability throughout the year.

During the visit, the participants also interacted with local community members and Village Water and Sanitation Committee (VWSC) representatives to understand their role in the operation and maintenance of the scheme. The discussions highlighted the importance of community participation, local governance, and traditional knowledge in achieving long-term water sustainability. Overall, the field visit provided valuable insights into decentralized and nature-based approaches to water management in the Himalayan region.



Snippets from the training



6. Date: 18 March- 20 March 2024 State/UT Covered: Himachal Pradesh

No. of Participants: 37

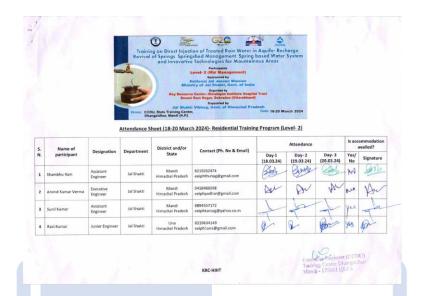
A field exposure visit was organized at the G.B. Pant National Institute of Environment and Sustainable Development, Kullu, Himachal Pradesh. Dr. Vasudha Agnihotri, Scientist-E at the Himachal Pradesh Regional Centre of the Institute, shared several successful case studies on springshed management in different regions of Himachal Pradesh. Her presentation emphasized the importance of scientific assessment, community participation, and nature-based solutions for spring rejuvenation and sustainable water resource management in mountain ecosystems.

Following the briefing session, participants visited two identified spring sites—Pah Nala Spring (Badaj Pahnallaj, Kharihar area, Bhuntar, Kullu) and Dohra Nalah Spring (Badaj Pahnallak, Kharihar area, Bhuntar, Kullu). During these field visits, participants were divided into four groups to gain hands-on experience in springshed delineation techniques, planning and implementation of recharge structures, and community engagement approaches for effective spring management. The activity enabled participants to understand the interlinkages between hydrology, ecology, and community livelihoods. Overall, the field exposure visit provided valuable practical insights into the processes of spring mapping, recharge interventions, and participatory planning for ensuring long-term water security in hilly terrains like Himachal Pradesh.



Snippets from the training





7. Date: 20 February- 22 February 2024

State/UT: Lakshadweep No. of Participants: 51

A field exposure visit was organized for participants to various water management and conservation sites in Kavaratti, Lakshadweep. The sites visited included the *Low Temperature Thermal Desalination (LTTD) Plant* at Multiyear Beach near Raj Niwas, a *Rainwater Harvesting System* near Raj Niwas, a *traditional Dugwell*, and a *Natural Pond* located in the same vicinity.

The visit to the *LTTD Plant*, established by the *National Institute of Ocean Technology (NIOT)*, *Chennai*, provided participants with a unique learning opportunity about innovative desalination technology. The plant, with a capacity of 100,000 liters per day, utilizes the temperature difference between surface seawater and deep seawater to produce fresh water. In this process, warm surface seawater (approximately 28°C) is flash evaporated under low pressure in a flash chamber, and the resulting water vapor is condensed using cold seawater (around 13°C) drawn from a depth of about 350 meters through a 600-meter-long pipeline. The condensed vapor yields pure freshwater, which is then supplied for local use. This technology, first successfully tested in a 5,000 LPD pilot plant at NIOT Chennai, was later scaled up at Kavaratti due to its ideal oceanic conditions.

The island of Kavaratti, with a population of around 10,000 and located nearly 200 km west of the Indian mainland, benefits immensely from this sustainable desalination solution. After visiting the LTTD plant, participants also observed other traditional and modern water conservation structures, including the *Rainwater Harvesting System* constructed by the Lakshadweep Public Works Department (LPWD), a *traditional Dugwell*, and a *Natural Pond* near Raj Niwas.







8. Date: 20 March- 22 March, 2024

State/UT: Sikkim

No. of Participants: 55

On 21st March 2024, Field exposure visits were organized at two sites in Gangtok. As per theme of the program, firstly visited at Dickchu, Gangtok site near the Teesta River which was heavily affected with Flash flood last year. Subsequently, another site of G. B. Pant institute of Himalayan Environment and Sustainable Development, Gangtok visited. At this participant were taken to springshed initiatives and intervention site. Participants were shared the water recharge and source sustainability measures. After lunch, the participants prepared the details and presentation on field exposure visit. Subsequently, they presented their learnings from the site visits. Next session on new innovative technologies for disaster mitigation and management was done by Er. Atul Uniyal, Scientist, SRHU. In this session, he illustrated Intake Chamber, Uttaranchal Koop, Riverbank Filtration and Direct Injection as alternative ways towards ensuring the water availability and maintaining the supply of water in disaster and emergencies. The innovative technologies abstracts the naturally filtered and treated water directly from ground. This arrangement is a disaster prone arrangement and shall not get affected during any disaster. Subsequently, he also delivered session on water quality and disinfection.

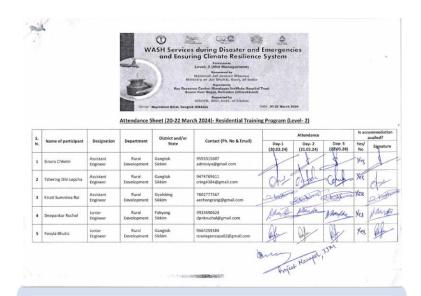


Snippets from the training



Snippets from the training





9. Date: 21 December 23 December 2023

State/UT: Kerala No. of Participants: 51

A field exposure visit was organized to the *Sewage Treatment Plant (STP)* at Kochi, Ernakulam district, with a treatment capacity of 5 MLD, and to the *Water Treatment Plant* operated by the Kerala Water Authority under the Kochi City Nettoor–Maradu Scheme. The visit aimed to provide participants with practical exposure to urban water and wastewater management systems and their operation and maintenance processes.

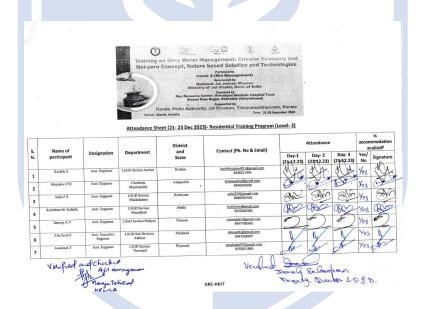
The field visit was facilitated by *Er. Fatima*, Assistant Engineer, Kerala Water Authority, Kochi; *Mr. Nitesh Kaushik*, Deputy Director, Water & Sanitation, SRHU; *Dr. Tribhuwan Bisht*, Scientist, SRHU; *Er. Atul Uniyal*, SRHU; and other resource persons who guided the participants throughout the visit and explained various technical and operational aspects of the plants.

In the evening, a *group exercise* was conducted in which participants reflected on their field visit learnings and prepared action plans. The groups presented their findings before a panel and discussed key topics such as *greywater management* and *sustainable operation and maintenance (O&M)* practices for decentralized water systems. The session provided an excellent platform for experience sharing, problem-solving, and knowledge exchange among participants.





Snippets from the training



10. Date: 21 June- 23 June, 2023 State/UT Covered: West Bengal

No. of Participants: 51

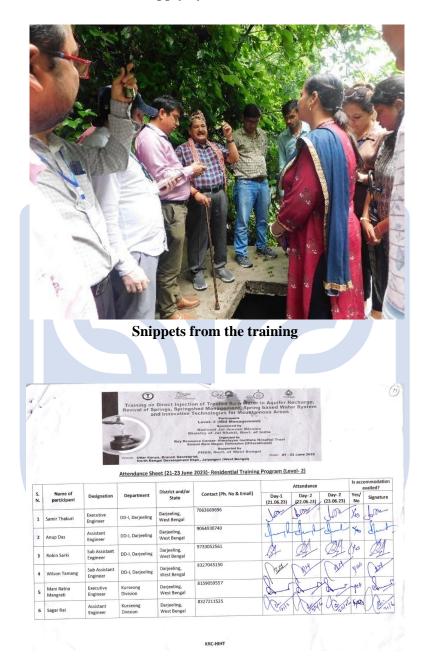
A field exposure visit was organized in Rongtong Village, Block Kurseong, District Darjeeling, West Bengal, to provide participants with practical experience in spring-based water supply schemes and the direct injection method for aquifer recharge. The visit enabled participants to understand on-ground implementation techniques for sustainable rural water management in hilly regions.

The third day began with a yoga session followed by group presentations summarizing the learnings from the previous day's field visit. Subsequently, Er. H.P. Uniyal conducted a detailed technical session on Water Supply Technologies and Solutions for Spring-Based Systems, covering topics such as design techniques, construction practices, monitoring and supervision methods, and quality control measures for rural water supply schemes.

Later, Er. Atul Uniyal, Consultant Engineer from Dehradun, led a session on the Establishment of Operation and Maintenance (O&M) Systems and Har Ghar Jal (HGJ) Certification. He emphasized aspects of disinfection



systems (preventive and curative measures including chlorination), institutional mechanisms (bylaws, Village Water Mechanics, active VWSCs, and social audits), and financial management (tariff fixation, user charge collection, and record keeping). The session provided comprehensive insights into the HGJ protocol mechanism for ensuring sustainable and safe rural water supply systems.



Sample Attendance

11. Date: 22 January- 24 January, 2024

State/UT: Gujarat No. of Participants: 54

A field exposure visit was organized to explore traditional water bodies in Gandhinagar and Ahmedabad districts of Gujarat. The visit was coordinated by Mr. Rajkumar Verma, Assistant Manager, HIHT, and Mr. Sujeet Thapliyal, Coordinator, HIHT. The participants visited two key sites — the Adalaj Stepwell and Adalaj Lake in Gandhinagar, a five-storied stepwell designed for rainwater conservation, and Hathisingh ni Wadi on Shahibaug Road, Ahmedabad, which showcases traditional rainwater harvesting techniques adopted in temple architecture. During the visit, Er. H.P. Uniyal, Advisor, SRHU, explained the traditional wisdom of ancient India regarding water conservation, the engineering techniques used in constructing these heritage structures, and the importance of preserving the purity and sanctity of each water body. He also emphasized the long-term sustainability concept



of water management and explained how such traditional systems not only met drinking and livestock needs but also maintained hydrological connectivity with downstream water sources.

After the field visit, participants presented their learnings before a panel. The panel members discussed the observations, identified gaps in the group exercises, and provided valuable feedback. The overall session was facilitated by Ms. Geeta Kandpal, Course Coordinator.





12. Date: 26 June – 28 June, 2023

State/UT: Sikkim No. of Participants: 50

A field exposure visit was organized to Rongey Village under Rongey Gram Panchayat in Rongay Block, Sikkim, to provide participants with practical exposure to community-managed water supply systems. The visit focused on understanding the Operation and Maintenance (O&M) practices, utility-based approaches, and tariff collection mechanisms adopted by local communities to ensure sustainable water management. Participants observed how the village committees efficiently handle system maintenance, ensure regular water supply, and mobilize community participation for cost recovery through structured tariff collection. The visit also highlighted the importance of accountability, transparency, and local ownership in sustaining rural water supply schemes. Overall, the field exposure provided valuable insights into the successful implementation of decentralized water governance and the community-driven models practiced in Sikkim for ensuring reliable and equitable access to drinking water.



Snippets from the training





13. Date: 28 September – 30 September, 2023

State/UT: Himachal Pradesh

No. of Participants: 37

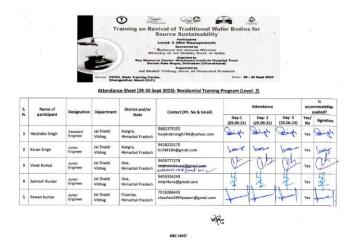
A field exposure visit was organized to various traditional water bodies in different villages of Mandi District, Himachal Pradesh. The participants visited several important sites, including the Bawari named "Bhabhi Ri Bawri" in Rungh Village, GP Kathandi, the spring "Nagri Dhar" in Rungh Village, the pond "Katindi Talab" in Katindi Village, a pond constructed by IPH (PHED) in Saku Sar Village, GP Dehli, and the renowned Parashar Lake located near the Parashar Rishi Temple.

During the visit, Er. H.P. Uniyal, Advisor, SRHU elaborated on the traditional wisdom of ancestors, the engineering excellence behind the construction of these water bodies, and the community's role in their preservation. He emphasized the importance of maintaining the purity and sanctity of these natural water sources while ensuring their long-term sustainability. Participants also learned how such traditional systems meet drinking and livestock water needs and maintain connectivity with downstream water resources. After the field visits, participants presented their key learnings before a panel, where gaps identified during the group exercise were discussed and resolved. The session was facilitated by Mr. Shivam Dhaundiyal, Environment Expert.



Snippets from the training





14. Date: 29 January – 31 January, 2024

State/UT: Madhya Pradesh No. of Participants: 51

On 30th January 2024, field exposure visits were organized to two prominent dam sites in Bhopal District — Kerwa Dam and Kaliasot Dam. At Kerwa Dam, Er. Ravindra Shrivastav, SE, PHED, briefed the participants on the technical aspects, operational procedures, and resilient measures adopted for effective water management. The dam is equipped with eight gates that are auto-mechanically operated, ensuring efficient regulation of water flow, particularly during flood conditions. The second visit was to Kaliasot Dam, where Er. Yadav, SE, PHED, explained the dam's operational mechanisms, emphasizing its role in flood control, water storage, and groundwater recharge. This dam consists of 13 radial-type spillway gates, primarily designed to manage excess water during high inflow periods and mitigate flood risks. Participants also learned about the early warning system and gate operation protocols followed during emergencies.

After the field visits, participants prepared detailed reports and presentations summarizing their key observations, technical learnings, and insights gained from the site interactions. These presentations were later shared and discussed with the panel for feedback and further understanding of dam management practices.



Snippets from the training





15. Date: 30 October- 01 November, 2023 State/UT: Andaman and Nicobar Islands

No. of Participants: 51

A field exposure visit was organized to various water management sites in the Andaman and Nicobar Islands, including the Water Treatment Plant near the LG House, the Pumping Plant at Gandhi Sarowar, and the Borewell and Jhunjhunu Nala intake work at Beodanapur village. During the visit, participants observed the operational mechanisms of these facilities and interacted with the local community and Village Water and Sanitation Committee (VWSC) to understand community involvement in maintaining rural water supply systems. Er. H.P. Uniyal, Advisor, SRHU, along with other resource persons, facilitated the visit and provided technical insights into the functioning and sustainability of these water systems. In the evening session, participants conducted a group exercise to discuss and present their learnings from the field visit before a panel. The discussions emphasized sustainable operation and maintenance (O&M) practices and the importance of community participation in ensuring the longevity of water infrastructure.



Snippets from the training

