



SDG 6



Clean Water and Sanitation

By 2030, everyone should have access to and sustainable management of water and sanitation, according to Sustainable Development Goal 6 (SDG 6). Economic growth, environmental sustainability, and human health all depend on having access to clean water and proper sanitation. Still, billions of people around the world do not have access to facilities for good sanitation, hygiene, or safe drinking water. In order to address the global water problem and guarantee sustainability, SDG 6 highlights the importance of integrated water resources management, enhanced water quality, and water-use efficiency.

Swami Rama Himalayan University (SRHU) is committed to sustainable development through education, research, and community outreach. The university emphasizes holistic growth, environmental stewardship, and societal welfare, aligning closely with SDG 6. SRHU promotes sustainable water management practices by integrating research on water purification technologies, hydroponics, and waste treatment systems into its academic and research programs. Its focus on community development and training empowers rural populations to adopt sustainable water usage and sanitation practices.

Furthermore, SRHU's infrastructure development initiatives ensure eco-friendly water management systems within the campus, setting a benchmark for sustainability. By fostering innovation, education, and awareness, SRHU actively contributes to achieving SDG 6 and creating a sustainable future.



CHALLENGES IN ACHIEVING SDG 6

- **Water Scarcity:** Growing population, climate change, and over-extraction are exacerbating water shortages.
- **Pollution and Contamination:** Industrial effluents, agricultural runoff, and lack of wastewater treatment facilities pose risks to water quality.
- **Infrastructure Deficiency:** Many rural areas lack basic infrastructure for water supply and sanitation.
- **Funding and Governance Issues:** Inadequate investments and weak regulatory frameworks hinder progress.

STRATEGIES AND SOLUTIONS

- **Innovative Technologies:** Development of water purification systems, wastewater recycling, and desalination technologies.
- **Capacity Building and Education:** Promoting awareness and training programs for sustainable water management practices.
- **Public-Private Partnerships:** Encouraging collaboration between governments, NGOs, and private sectors to finance and implement water projects.
- **Policy Reforms:** Strengthening regulations, monitoring systems, and enforcement to ensure compliance with water safety standards.

ALIGNMENT WITH SRHU UNIVERSITY GOALS

Swami Rama Himalayan University (SRHU) aligns with SDG 6 through the following initiatives:

1. **Research Programs:** Conducting research on water purification technologies, hydroponics, and wastewater treatment systems.
2. **Sustainable Infrastructure:** Implementing eco-friendly water management systems within the campus.
3. **Community Training Programs:** Empowering rural populations to adopt sustainable water usage and sanitation practices.
4. **Educational Integration:** Incorporating sustainable water management practices into academic curricula.
5. **Innovation and Development:** Promoting innovative solutions for water conservation and recycling.
6. **Outreach Activities:** Engaging in community outreach to raise awareness and provide training on sustainable water management.



Rainwater harvesting @SRHU

SRHU actively promotes sustainable water management practices through rainwater harvesting systems implemented across the campus. Key features include:

1. **Collection Systems:** Rooftop rainwater collection structures installed in multiple buildings to capture and store rainwater.
2. **Storage Tanks:** Large underground and overhead storage tanks to preserve harvested water for non-potable uses such as irrigation and cleaning.
3. **Groundwater Recharge:** Recharge pits and trenches to replenish groundwater levels and enhance aquifer sustainability.
4. **Water Conservation Awareness:** Regular workshops and awareness campaigns to educate students and staff about the importance of rainwater harvesting.
5. **Sustainability Monitoring:** Periodic evaluations and audits to assess system performance and optimize water usage efficiency.

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. **Laboratory Practices:** Water recycling technologies are integrated into laboratories to reuse water in experiments and processes.
5. **Monitoring and Maintenance:** Regular monitoring ensures the quality of recycled water, while maintenance practices keep the systems efficient and operational.
6. **Awareness Programs:** Workshops and awareness drives educate students and staff about the importance of water recycling and its role in sustainability.

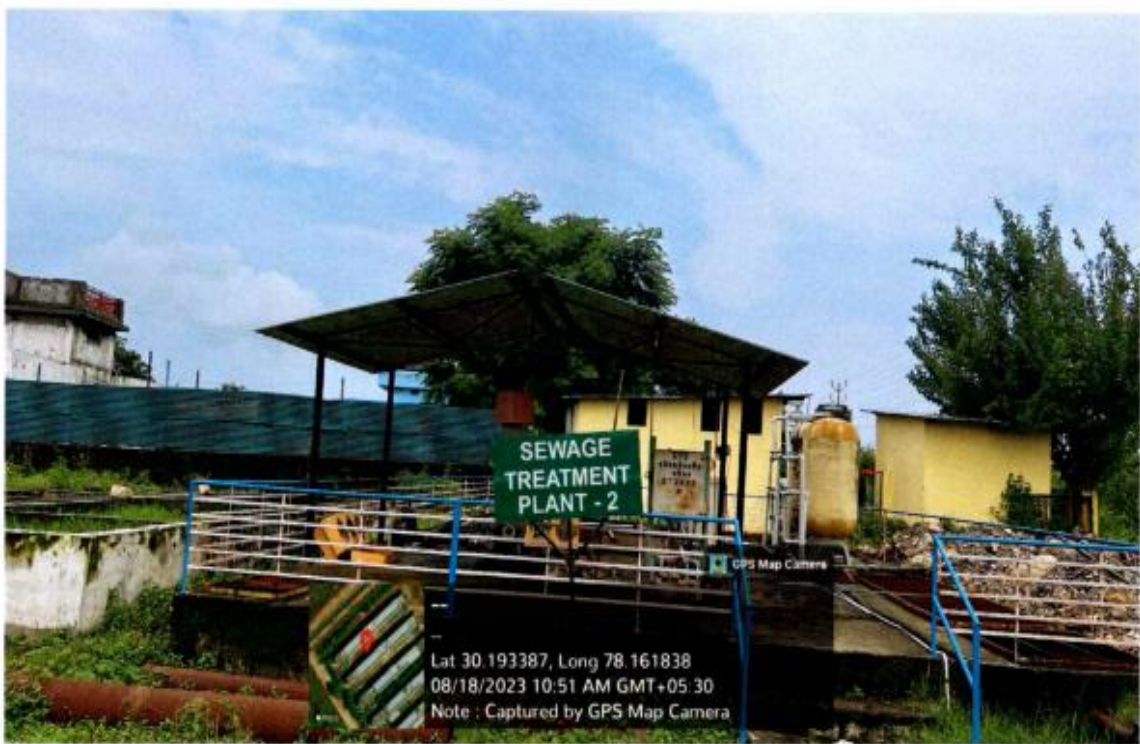




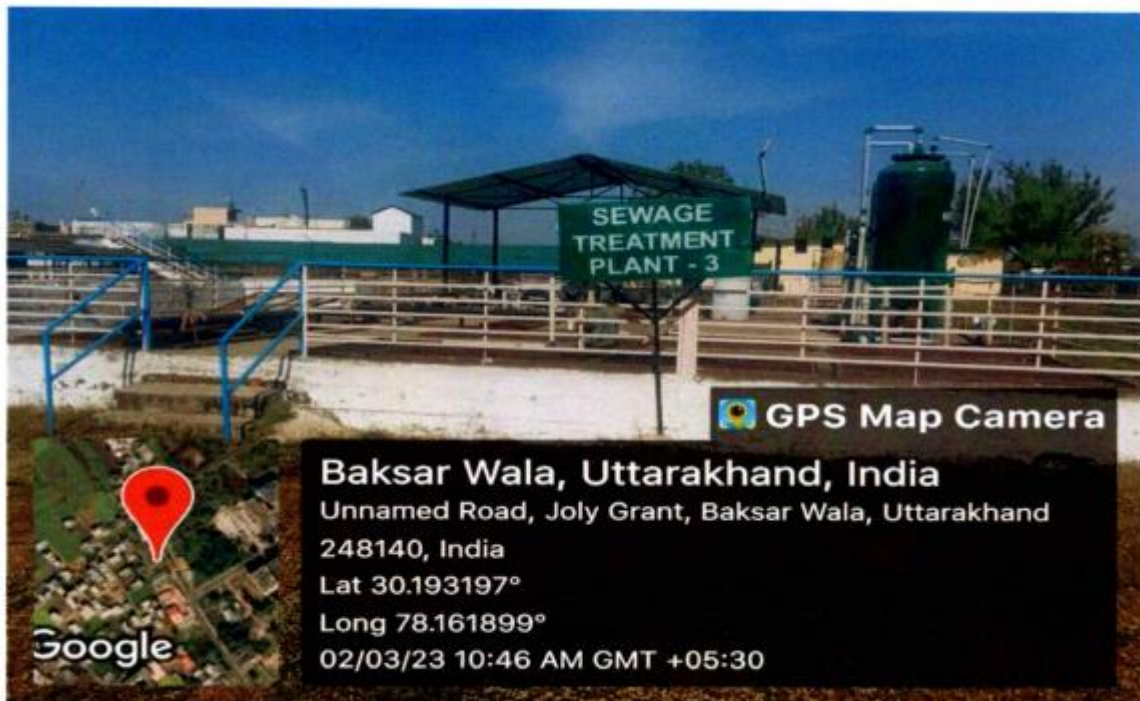
Process Flow Diagram (STP)



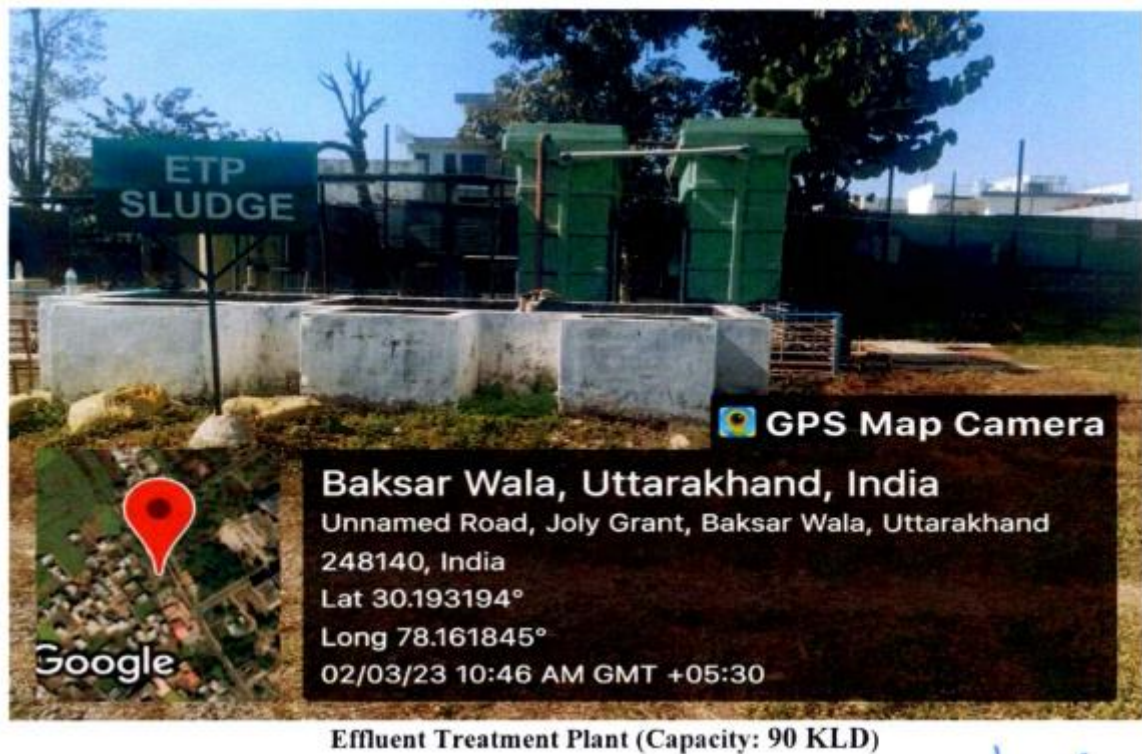
Sewage Treatment Plant no. 1



Sewage Treatment Plant no. 2



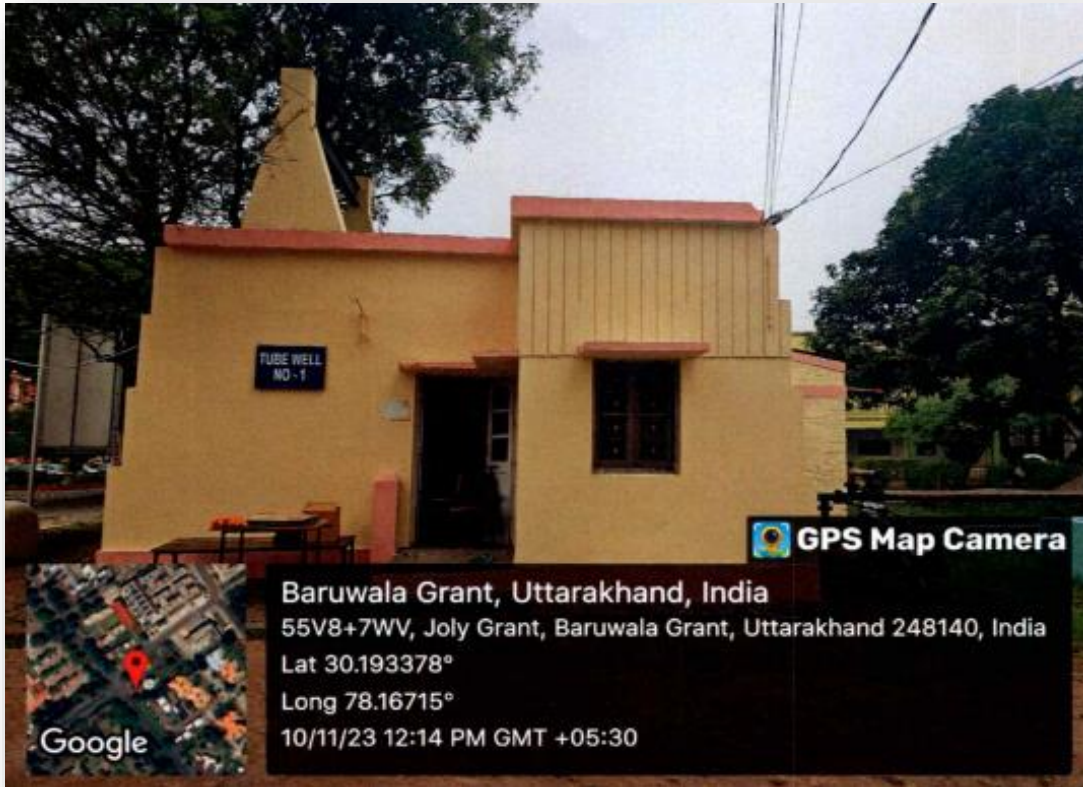
Sewage treatment plant no. 3



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:

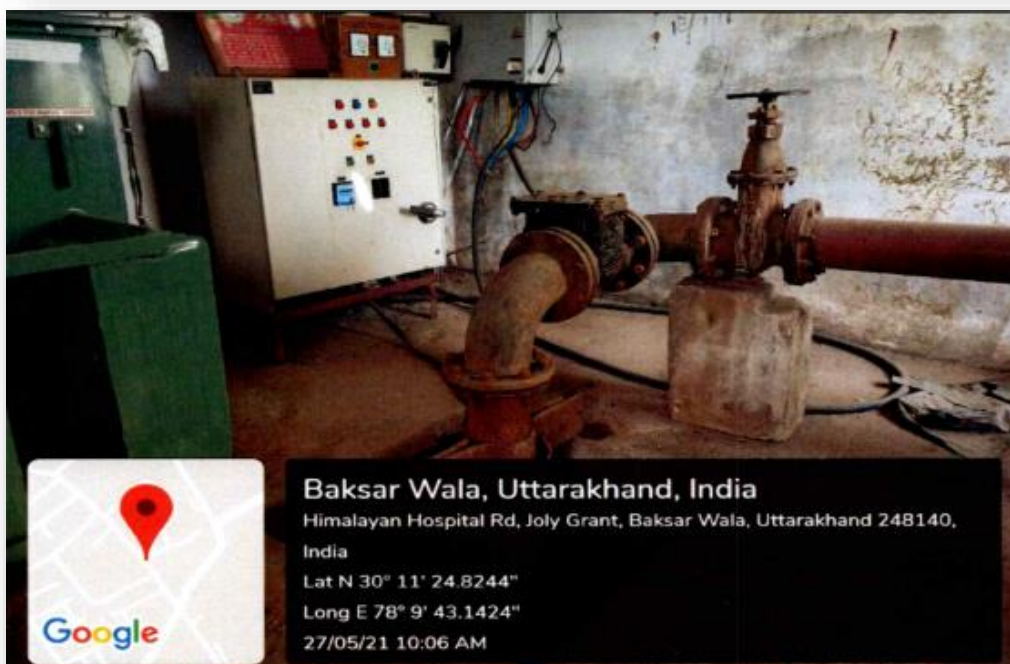
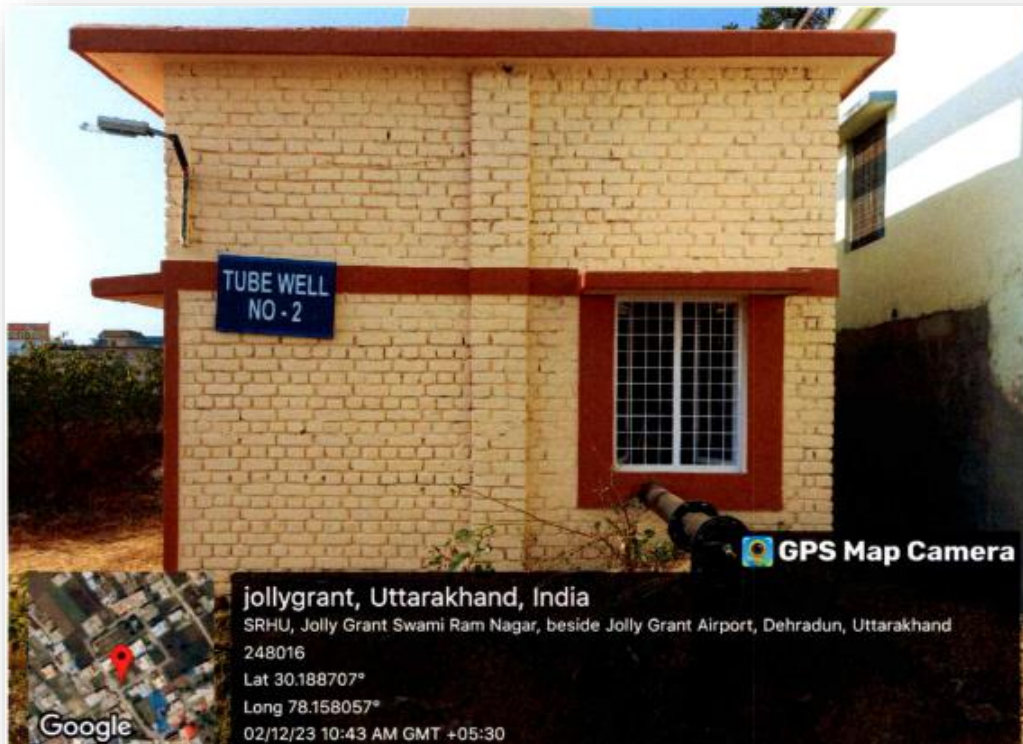
- **Periodic Cleaning and Desilting:** Regular cleaning of water storage tanks, ponds, and recharge pits to prevent contamination and maintain water quality.
- **Leakage Detection and Repairs:** Timely identification and repair of leaks in pipelines to minimize water wastage.
- **Water Quality Monitoring:** 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.



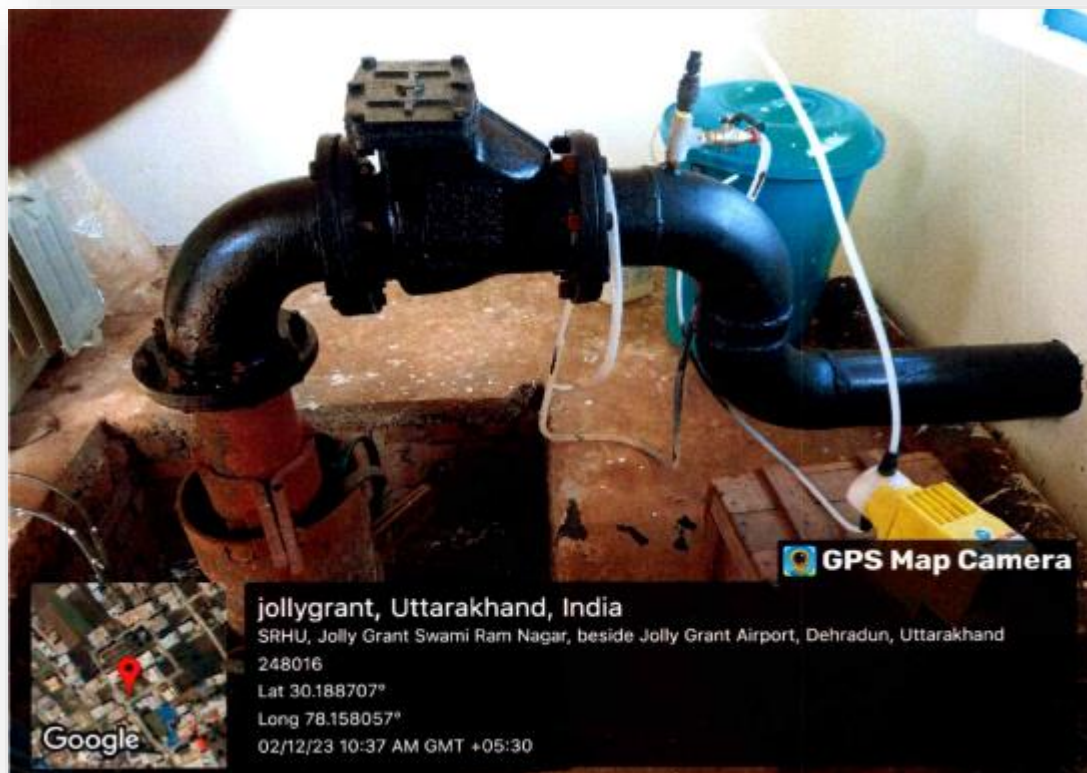
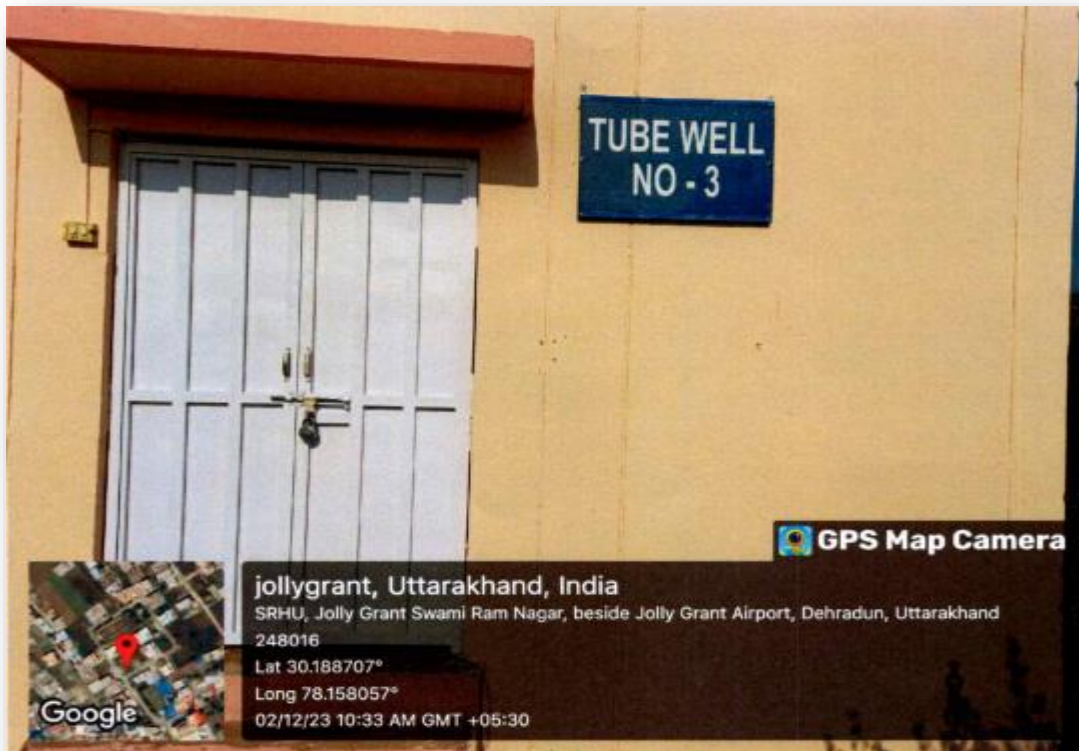
Main Tubewell and the distribution valve



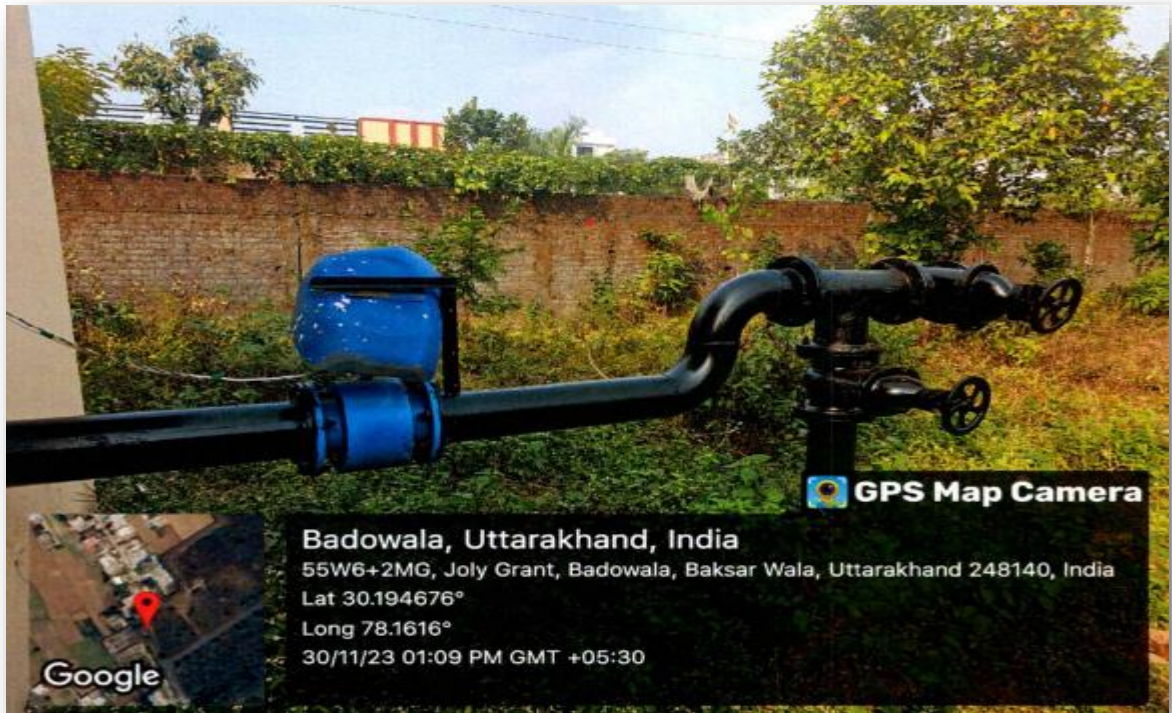
Distribution pipe from the tubewell to underground well



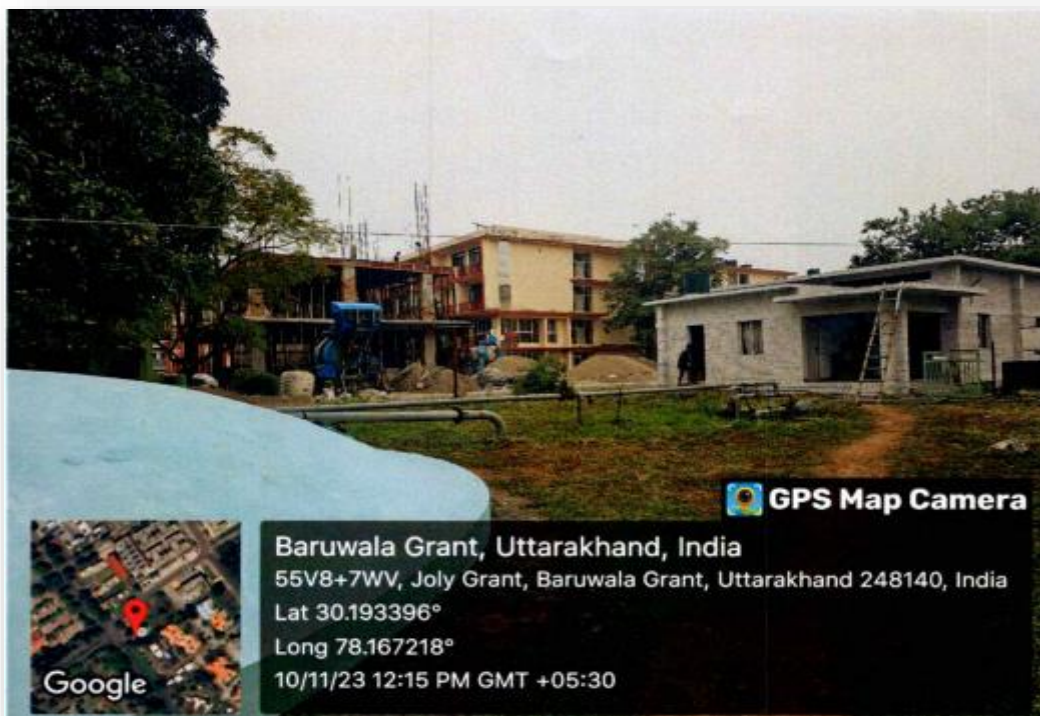
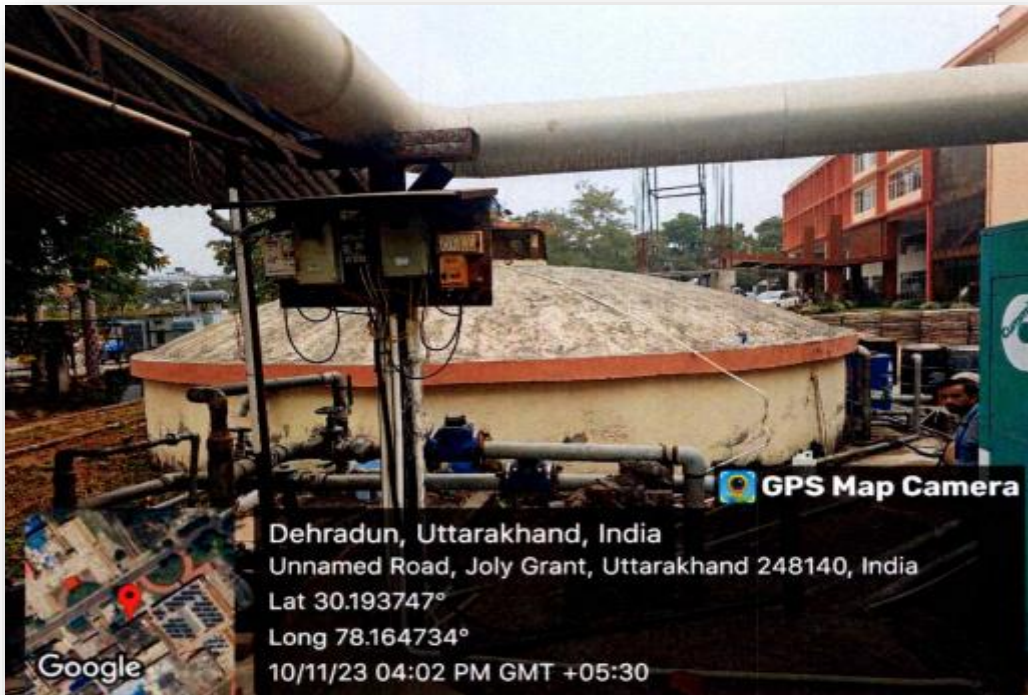
Tubewell No 2 with the distribution pipe



Tubewell No.3 with chlorination and distribution system



Tubewell No. 3 with chlorination and distribution system



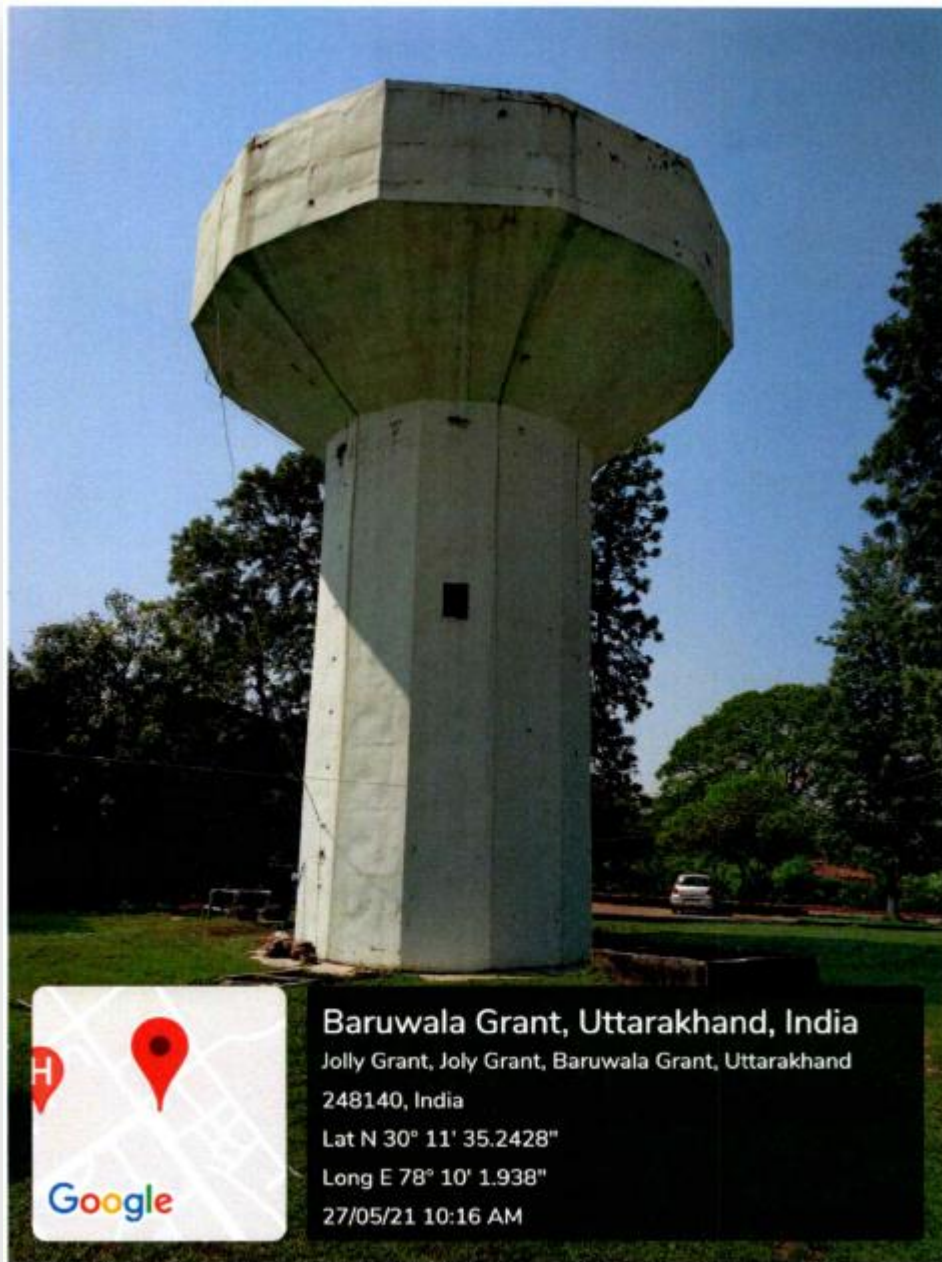
Pipelines for the distribution through underground water tanks



Tanks and Bunds

SRHU emphasizes the use of tanks and bunds as an integral part of its sustainable water management practices. These structures are vital for conserving water, preventing soil erosion, and supporting groundwater recharge. Key initiatives include:

1. **Water Storage Tanks:** Constructing large tanks to store rainwater and treated water for irrigation and other non-potable uses.
2. **Bunding Systems:** Establishing bunds in key areas to capture surface runoff and direct it to recharge pits or water bodies.
3. **Erosion Control:** Using bunds to prevent soil erosion and enhance soil moisture retention in landscaped and agricultural areas.
4. **Groundwater Recharge:** Designing tanks and bunds to channel excess water into aquifers, thereby maintaining groundwater levels.
5. **Community Awareness:** Educating the campus community on the importance and functioning of tanks and bunds in sustainable water management.
6. **Integration with Landscaping:** Incorporating tanks and bunds into the campus landscaping plan to maximize water conservation benefits.



Baruwala Grant, Uttarakhand, India

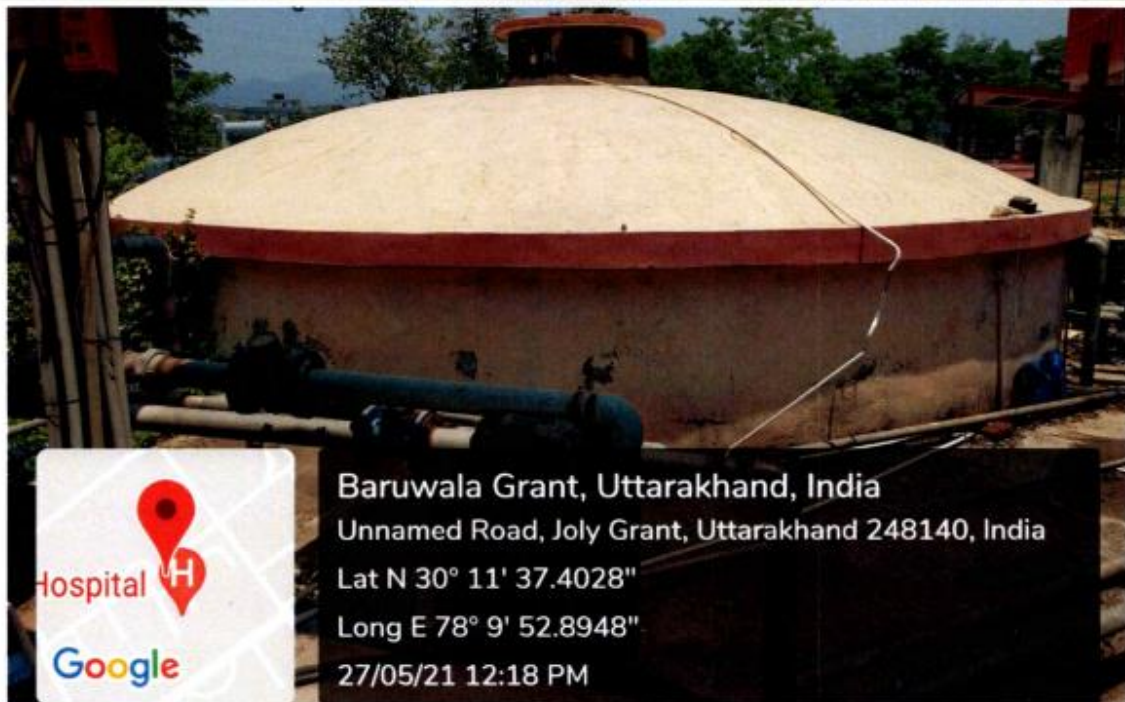
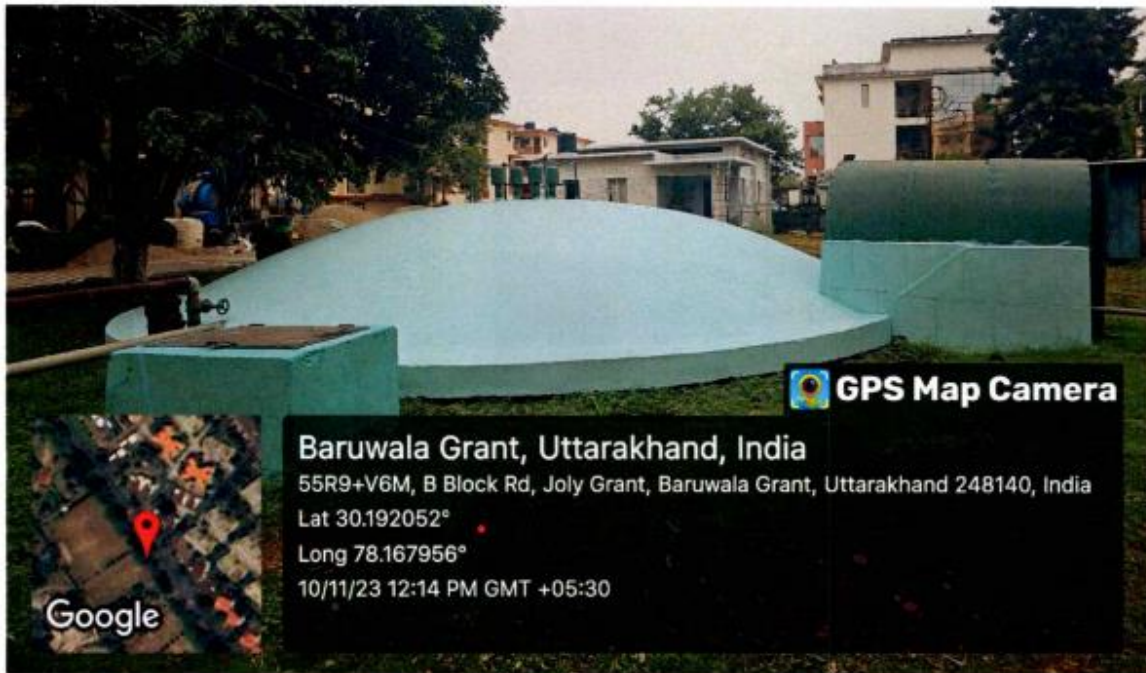
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248140, India

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Overhead Tank (Tubewell Chowk) with capacity of 250 KL



Underground water tanks (Tube well Chowk- 150 KL and behind the main Hospital building- 175 KL)



[Policy on Liquid waste management: \(View Document \)](#)

SRHU follows a well-defined liquid waste management policy to ensure environmentally safe disposal and treatment of liquid waste. Key features include:

1. **Wastewater Treatment Plants:** Advanced treatment plants are installed to process liquid waste generated from laboratories, hostels, and other facilities.
2. **Segregation and Collection:** Liquid waste is segregated at source, collected, and directed to treatment plants.
3. **Treatment Processes:** Biological, chemical, and physical treatment methods are used to neutralize contaminants and make the water reusable.
4. **Reuse and Disposal:** Treated water is reused for irrigation, flushing systems, and cleaning purposes, while excess treated water is safely discharged following environmental regulations.
5. **Regular Monitoring:** Periodic checks and tests are conducted to ensure compliance with pollution control norms.
6. **Awareness and Training:** Staff and students are regularly trained in proper waste disposal techniques and the importance of liquid waste management.

[Extension and Outreach Activities](#)

SRHU actively engages in extension and outreach activities to promote water sustainability and sanitation awareness in the community. Key initiatives include:

1. **Community Awareness Programs:** Conducting workshops, seminars, and campaigns on water conservation and hygiene practices.



2. **School Outreach Programs:** Educating schoolchildren about safe water usage, sanitation, and personal hygiene.
3. **Village Development Projects:** Implementing water management systems and sanitation facilities in nearby villages.
4. **Capacity Building:** Training local communities on rainwater harvesting, water recycling, and sustainable farming practices.
5. **Collaborations with NGOs:** Partnering with NGOs to expand outreach efforts and implement sustainable water solutions.
6. **Field Demonstrations:** Organizing practical demonstrations of water-saving technologies and wastewater treatment systems.

List of extension and outreach activities

| S. No. | Particular | Link |
|--------|---|-------------------------------|
| 1. | Jal Jeevan Mission (JJM) on 07 Jan 2023 | View document |
| 2. | Jal Jeevan Mission (JJM) on 10 Jan 2023 | View document |
| 3. | Jal Jeevan Mission (JJM) on 22 Jan 2023 | View document |
| 4. | Jal Jeevan Mission (JJM) on 23 Jan 2023 | View document |
| 5. | Jal Jeevan Mission (JJM) on 24 Jan 2023 | View document |
| 6. | Jal Jeevan Mission (JJM) on 10 Feb 2023 | View document |
| 7. | Jal Jeevan Mission (JJM) on 13 Feb 2023 | View document |
| 8. | Jal Jeevan Mission (JJM) on 15 Feb 2023 | View document |
| 9. | Jal Jeevan Mission (JJM) on 17 Feb 2023 | View document |
| 10. | Jal Jeevan Mission (JJM) on 21 Feb 2023 | View document |



| | | |
|-----|---|-------------------------------|
| 11. | Jal Jeevan Mission (JJM) on 24 Feb 2023 | View document |
| 12. | Jal Jeevan Mission (JJM) on 25 Feb 2023 | View document |
| 13. | Jal Jeevan Mission (JJM) on 03 March 2023 | View document |
| 14. | Jal Jeevan Mission (JJM) on 06 March 2023 | View document |
| 15. | Jal Jeevan Mission (JJM) on 13 March 2023 | View document |
| 16. | Jal Jeevan Mission (JJM) on 14 March 2023 | View document |
| 17. | Jal Jeevan Mission (JJM) on 15 March 2023 | View document |
| 18. | Jal Jeevan Mission (JJM) on 16 March 2023 | View document |
| 19. | Jal Jeevan Mission (JJM) on 17 March 2023 | View document |
| 20. | Jal Jeevan Mission (JJM) on 21 March 2023 | View document |
| 21. | Jal Jeevan Mission (JJM) on 23 March 2023 | View document |
| 22. | Jal Jeevan Mission (JJM) on 24 March 2023 | View document |
| 23. | Training on Rainwater harvesting and ground water discharge on 6 January 2022 | View document |
| 24. | Training on long term sustainability, security, recharge and management of drinking water sources on 11 January 2022 | View document |
| 25. | Training on Key Components of Jal Mission on 13 January 2022 | View document |
| 26. | Training on Rainwater harvesting and ground water discharge on 18 January 2022 | View document |
| 27. | Training on Greywater Management on 27 January 2022 | View document |
| 28. | Training on Greywater Management on 08 February 2022 | View document |
| 29. | Training on long term sustainability, security, recharge and management of drinking water sources on 16 February 2022 | View document |
| 30. | Training on Greywater Management on 22 Feb 2022 | View document |
| 31. | Training on Jal Jeevan Mission (JJM) for Har Ghar Jal on 24 Feb 2022 | View document |



| | | |
|-----|--|-------------------------------|
| 32. | Training on Jal Jeevan Mission for Har Ghar Jal on 03 March 2022 | View document |
| 33. | Training on Innovative Technologies for JJM on 08 March 2022 | View document |
| 34. | Training on Innovative Technologies for JJM on 14 March 2022 | View document |
| 35. | Training on Innovative Technologies for JJM on 23 March 2022 | View document |
| 36. | Training on Jal Jeevan Mission (JJM) for Har Ghar Jal on 05 April 2022 | View document |
| 37. | Training on Jal Jeevan Mission (JJM) for Har Ghar Jal on 11 April 2022 | View document |
| 38. | Training and capacity building of implementation support agencies (ISAs) under JJM on 13 June 2022 | View document |
| 39. | Training and capacity building of implementation support agencies (ISAs) under JJM on 17 June 2022 | View document |
| 40. | Training and capacity building of implementation support agencies (ISAs) under JJM on 27 June 2022 | View document |
| 41. | Training and capacity building of implementation support agencies (ISAs) under JJM on 01 July 2022 | View document |
| 42. | Training and capacity building of implementation support agencies (ISAs) under JJM on 06 July 2022 | View document |
| 43. | Training and capacity building of implementation support agencies (ISAs) under JJM on 11 July 2022 | View document |
| 44. | Training and capacity building of implementation support agencies (ISAs) under JJM on 15 July 2022 | View document |
| 45. | Training and capacity building of implementation support agencies (ISAs) under JJM on 29 July 2022 | View document |
| 46. | Training on issues, challenges and solutions in spring-based water supply system on 30 August 2022 | View document |
| 47. | Training and capacity building of implementation support agencies (ISAs) | View document |



| | | |
|--------------------------|---|-------------------------------|
| under JJM on 12 Oct 2022 | | |
| 48. | Training on issues, challenges and solutions in spring-based water supply system on 24 Nov 2022 | View document |
| 49. | Jal Jeevan Mission (JJM) on 08 Dec 2022 | View document |
| 50. | Jal Jeevan Mission (JJM) on 10 Dec 2022 | View document |
| 51. | Jal Jeevan Mission (JJM) on 12 Dec 2022 | View document |
| 52. | Jal Jeevan Mission (JJM) on 14 Dec 2022 | View document |
| 53. | Training and capacity on Change management and activities for Har Ghar Jal on 20 Dec 2022 | View document |
| 54. | Jal Jeevan Mission (JJM) on 26 Dec 2022 | View document |
| 55. | Jal Jeevan Mission (JJM) on 27 Dec 2022 | View document |

Research Initiatives

Aligned with Sustainable Development Goal 6, 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.

Research Projects

The University provides research funds to promote the research for conduction of research ([Intramural-Projects-Completed-2022.pdf](#), [Intramural-Projects-Completed-2023.pdf](#)). To name a few intramural projects funded by the university are:

| S. No. | Name of the project | Duration of the project | Name(s) of the teacher(s) working in the project receiving seed money | The amount of seed money provided (INR in lakhs) | Year of receiving the seed money |
|--------|---|-------------------------|---|--|----------------------------------|
| 1. | Apparatus For Real-Time Videotaping and Still Image Capturing for Fish Behavioural Patterns | 12 Months | Dr. Vishal Rajput, Dr. Sanjay Gupta, Dr. Chandra Shekhar Nautiyal | 0.3 | 2022-2023 |
| 2. | Development of Low-Cost Model for Efficient Treatment of Hospital Wastewater | 12 Months | Dr. Geeta Bhandari | 3.000 | 2022-2023 |
| 3. | Established of behavioural bio-indicators in freshwater stream fish against the specific neurotoxin | 24 Months | Dr Vishal Rajput | 4.000 | 2022-2023 |
| 4. | Sustainable synthesis of biogenic nanoparticles from waste as cost-effective approach for biomedical applications | 12 Months | Dr Archana Dhasmana | 4.000 | 2022-2023 |
| 5. | Integrated Intelligent Rainwater Harvesting and Storage System Based on IOT For Converting It to Purified Water | 06 Months | Suman, Shruti; Saurabh, Kumar; Bahadur Saini, Dilip Kumar Jang; Aggarwal, Nikhil; Shrivastava, Amit; Rakesh, Shanu Kuttan; Sonekar, Shrikant V.; Haridas, Sanjay Laxmikant; | 0 | 2021-2022 |



| | | | Subramanyam, M Madhusudhana and Vaishnav, Satish R. | | |
|----|----------------|--------------|---|-------|-----------|
| 6. | Pani Ki Kahani | 06 Months | Mr. Vishnu Sharan, Mr. Nitesh Kaushik, Dr. Rajeev Bijalwan, Mr. Raj Kumar Verma, Mr. Naresh Thapliyal | 0.482 | 2021-2022 |

The University actively secures extramural funding from national agencies to support research and initiatives aligned with Sustainable Development Goal 6 (SDG 6). These funds facilitate the development and implementation of projects aimed at improving water accessibility, quality, and sustainability. Extramural funding enables the University to establish state-of-the-art infrastructure, such as advanced water treatment and recycling facilities, and to conduct impactful research on innovative technologies for water purification, wastewater management, and groundwater recharge. Collaborative projects supported by these funds focus on addressing pressing issues such as water scarcity, pollution, and sanitation in rural and urban settings. Additionally, funding is utilized to organize community outreach programs, capacity-building workshops, and awareness campaigns that promote sustainable water usage and hygiene practices.

By leveraging extramural funding, the University strengthens its commitment to SDG 6, driving research and community engagement efforts that contribute to the sustainable management of water resources and improved sanitation for all.



| Sponsored Research Projects | | | | | | | |
|-----------------------------|----------------|---|-------------------------|-----------------|-----------------------------------|---|---|
| S.No. | Financial Year | Title of the Project | Sanctioned order no. | Sanctioned date | Total Amount Sanctioned (In Lakh) | Amount Received (In Lakh) during the year | AU |
| 1 | 2021-22 | Bioprocess Development for the Biological Removal of Iron from Subsurface Drinking Water | UBC/R&Dproject/2022/194 | 5.3.2022 | 16.36 | 6,86,710.00 | Himalayan Institute of Medical Sciences |
| 3 | 2022-23 | Bio-Prospecting of Microalgae for Biomass Production and Treatment of Hospital Wastewater | UCB/HLD/22/55 | 05-06-2022 | 9.75 | 8,69,161.00 | Himalayan Institute of Medical Sciences |

Research publications:

The University is committed to advancing Sustainable Development Goal 6 (SDG 6) through high-quality research and scholarly contributions. Faculty and researchers regularly publish their findings in peer-reviewed journals, highlighting innovative solutions for water and sanitation challenges. These publications address critical issues such as water purification technologies, wastewater treatment, rainwater harvesting, groundwater management, and the impact of climate change on water resources ([Scopus - Swami Rama Himalayan University](#)).

- Kumari, M., Bora, J., Dhasmana, A., Sinha, S., Malik, S. Nanotechnology for bioremediation of industrial wastewater treatment. Advanced Application of Nanotechnology to Industrial Wastewater, 2023
- Dhillon, N., Gupta, S., Kumar, V., Bhandari, G., Arya, S. Lipid. Journal of Pure and Applied Microbiology, 2023
- Naik, B.S.S.S., Vijay, K., Rizwanuddin, S., ...Mishra, S., Rustagi, S. Genomics, Proteomics, and Metabolomics Approaches to Improve Abiotic Stress Tolerance in Tomato Plant. International Journal of Molecular Sciences, 2023



- Kumari, S., Dwivedi, S., Khan, E.A.R., ...Dhasmana, A., Malik, S. The Challenges of Wastewater and Wastewater Management. Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment, 2023
- Patel, N., Dhasmana, A., Kumari, S., ...Nayanam, S., Malik, S. Nanofiltration Applications for Potable Water, Treatment, and Reuse. Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment, 2023
- Kumari, P., Dhasmana, A., Kishore, S., ...Mukherjee, N., Malik, S. Sustainable Green Approaches for Wastewater Purification. Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment, 2023
- Vijaylakshmi, Hemwati Nandan, R.M., Chaudhary, S., Bhandari, G. Microbial exopolysaccharides and their application for bioremediation of environmental pollutants. Advanced Microbial Technology for Sustainable Agriculture and Environment, 2023
- Gangola, S., Joshi, S., Bhandari, G., ...Bhandari, N.S., Mittal, A. Remediation of heavy metals by rhizospheric bacteria and their mechanism of detoxification. Advanced Microbial Technology for Sustainable Agriculture and Environment, 2023
- Malik, S., Kishore, S., Dhasmana, A., ...Minkina, T.M., Rajput, V.D. Wastewater. Water (Switzerland), 2023
- Rawat, G., Choudhary, R., Kumar, V.R. Microbial Biosurfactants and Their Implication Toward Wastewater Management. Handbook of Environmental Chemistry, 2023
- Malik, S., Dhasmana, A., Preetam, S., ...Singh, R.K., Rajput, V.D. Exploring Microbial-Based Green Nanobiotechnology for Wastewater Remediation: A Sustainable Strategy. Nanomaterials, 2022
- Bhatt, P., Bhandari, G., Bhatt, K., Simsek, H. Microalgae-based removal of pollutants from wastewaters: Occurrence, toxicity and circular economy. Chemosphere, 2022
- Bhatt, P., Bhandari, G., Turco, R.F., ...Bhatt, K., Simsek, H. Algae in wastewater treatment, mechanism, and application of biomass for production of value-added product. Environmental Pollution, 2022
- Rajput, V., Jaiswal, K.K., Dhatwalia, V.K., ...Kumar, S.K., Verma, M. Microalgae: A promising tool for pesticide mitigation in wastewater. Pesticides Bioremediation, 2022



- Gangola, S., Bhatt, P., Alagarasan, J.K., ...Bhatt, K., Rene, E.R. Biotechnological tools to elucidate the mechanism of pesticide degradation in the environment. Chemosphere, 2022

Patents and Innovations

The University actively contributes to Sustainable Development Goal 6 (SDG 6) by fostering innovation and translating research into practical solutions through patentable technologies. Researchers and faculty members focus on developing cutting-edge technologies and systems that address water and sanitation challenges, emphasizing sustainability and community impact.

| S.No. | Title of Patent | Name of the innovator | Patent number | Status |
|-------|---|---|--|----------------------------|
| 1 | Integrated Intelligent Rainwater Harvesting and Storage System Based on IOT For Converting It to Purified Water | Suman, Shruti Saurabh, Kumar; Bahadur Saini, Dilip Kumar Jang; Aggarwal, Nikhil; Shrivastava, Amit; Rakesh, Shanu Kuttan; Sonekar, Shrikant V.; Haridas, Sanjay Laxmikant; Subramanyam, M Madhusudhana and Vaishnav, Satish R. | Australian Patent with Application Number 2021105390 | Click Here |



Key Initiatives taken under SDG 6 by RDI

Since year 1998, Rural Development Institute (RDI) of Himalayan Institute Hospital Trust (HIHT) has been working on its vision to enable water, sanitation and hygiene activities with the objective to deliver sustainable health and hygiene benefits through improvement in WATSAN services; thereby improving quality of life covering more than 550 villages till date. Projects are designed on approach of demand-responsive, need based and community-driven. It ensures active participation of gram panchayats, user committees, community, which plan/design/implement/manage their own schemes. During the year, following Watsan projects were undertaken:

Key Resource Centre (KRC)

Ministry of Jal Shakti, Government of India empanelled HIHT as Key (Knowledge) Resource Centre for capacity building and training of the officials, functionaries and stakeholders of Level -2 (Mid Management) and Level – 3 (Community) for Jal Jeevan Mission till 2024. KRC plays the role of training/capacity building of different stakeholders, dissemination of knowledge and information, development of high-quality content, documentation of best practices, etc. in the water supply sector.

Capacity Building & Training of 11 Batches of Implementation Support Agencies (ISAs)

11 Batches of ISAs were trained by conducting two days capacity building and training program on Jal Jeevan Mission for each around 100 ISAs from





June to October 2022 in residential mode under the aegis of State Water Sanitation Mission (Drinking Water & Sanitation Deptt.) Uttarakhand wherein total 436 participants of these ISAs were trained covering all the 13 districts of Uttarakhand.

Major objective of the training program was to inform and sensitize the participants towards the role and responsibilities of ISA along with to orient them about Jal Jeevan Mission Program in detail elaborating Program objective, its components, major strategies and approaches, importance and implication of participatory planning and community participation and ownership, financial provision and application of institutional framework and broadly and practically to build their capacity on participatory planning, implementation and operation and maintenance (O&M) for Har Ghar Jal for their role as ISA to Mission.

Capacity Building & Residential Training Programs towards JJM

Jal Jeevan Mission (JJM) is envisioned by the Government of India to provide safe and adequate drinking water to all households in rural India through individual household tap connections by the year 2024. The mission is also focused on to implement source sustainability measures as mandatory elements that include recharge and reuse through grey

water management, water conservation and rainwater harvesting among the others.

Extensive information, education, stakeholder training and communication are the key components of the mission. Key Resource Centers are nationwide recognized by the Ministry of





Drinking Water and Sanitation with a mandate to undertake capacity building trainings of various stakeholders.

The participants appreciated the initiatives of the Institute for organizing a platform for the participants to share and discuss a variety of innovative approaches and methods to address the challenges of behaviour changes at scale and diversity. Sharing, learning, adoption, and adaptation of these approaches is necessary to accelerate progress towards a clean rural India by the end of 2024. The training was very interactive and full of learning to them which came forward during informal interactions and discussions with them.

Details of the training programs conducted are being summarized as below.

Capacity Building & Training of Four Batches of mid-level Management Public Health Engineering Departments (PHEDs) Officials (Level 2)

Four training programs were conducted on issues, challenges and solutions in spring-based water supply systems, change management (role as public health engineers) and activities for

| SN | Title of Training | State | No. of participants | Profile of Participant |
|--------------|--|--|---------------------|-----------------------------------|
| 1. | Issues, Challenges and Solutions in Spring based Water Supply Systems | J& K, Himachal Pradesh, Manipur, Uttarakhand | 27 | Mid-level Public Health Engineers |
| 2. | | Himachal Pradesh, Assam, Sikkim, Kerala, Uttarakhand | 25 | |
| 3. | Change Management (Role as Public Health Engineers) and Activities for Har Ghar Jal' | Uttarakhand | 56 | |
| 4. | Training on WASH Services during Disaster and Emergencies' | Jammu & Kashmir, Himachal Pradesh, Rajasthan and Uttarakhand | 26 | |
| Total | | | 134 | |

Har Ghar Jal and WASH services during disaster and emergencies from Aug 2022 to January 2023 under the aegis of National Jal Jeevan Mission (Ministry of Jal Shakti).

The major objective of the program was to convey the attention of Public Health Engineers on the cross-cutting issues of rural water supply schemes and changing the mindset as per bottom-



up approach and integrating participatory measures in their working process and water resource management in the country. The trainees were also sensitized on efficient water resource management in disaster and emergency situations.

Training Programs in Jammu & Kashmir and Sikkim

KRC-HIHT conducted four days training program at Kupwara and Rajouri district of Jammu & Kashmir under the aegis of National Jal Jeevan Mission supported by Department of Drinking Water & Sanitation, Ministry of Jal Shakti, Govt. of India.

The theme of the program was to orient and to provide information to PRI's functionaries (viz. Sarpanch and ward members etc.) including members of the Village water Sanitation committee (VWSC) members of the water surveillance and monitoring committee of the local villages including

volunteers from water, sanitation and health sectors from the same. 69 participants from the nearby villages of Kupwara district and 96 participants from the adjacent villages of Rajouri district attended the Program.





In Sikkim, the first training of 2 days was conducted on WASH Services during Disaster and Emergencies at Sikkim State of Corporative Union, (SICUN), Gangtok, Sikkim. 32 Mid-level engineers were sensitised on the cross-cutting issues of rural water supply schemes and water resource management in disaster and emergencies



conditions and for all those areas which are prone to face such scenario in the country. The second training of 3 days focused on Issues, Challenges and Solutions in Spring based Water Supply Systems in which 38 mid-level Public Health Engineers participated.

| SN | Name of Training | State | Day | No. of participants | Profile of participants |
|----|---|-----------------|---------------------------------|---------------------|--------------------------------|
| 1 | Jal Jeevan Mission | Jammu & Kashmir | 8 (2 batches of 4 days each) | 165 | mid-level Management Officials |
| 2 | WASH Services during Disaster and Emergencies & Issues, Challenges and Solutions in Spring based Water Supply Systems | Sikkim | 5(2 batches of 2 & 3 days each) | 70 | |
| | | | | 235 | |

Nyay Panchayat level Trainings on JJM to PRIs & VWSCs/ ASHAs & AWWs in 3 districts of Uttarakhand



KRC-HIHT has been conducting one day Jal Jeevan Mission (JJM) trainings since December 2022 for around 6540 functionaries including members of the Village Water sanitation committee (VWSC) and representatives of the Panchayati raj Institutions at Nyay Panchayat level



of 109 Nyay Panchayat of all three districts; Dehradun, Haridwar and Rudraprayag of the State in collaboration with State Water and Sanitation Mission (Department of Drinking Water and Sanitation) Govt. of Uttarakhand.

Till date 26 batches have been conducted for all the three districts and 1518 participants have been trained and oriented towards the JJM program, its components and the need of realizing their important role and community participation.

Rural India Supporting Trust (RIST) Initiatives

Under RIST funding the water supply schemes in Pauri and Haridwar were completed through community- driven approach and their active mobilization. Stakeholders in village including Village Water Sanitation Committee (VWSC) were enabled to take care of operation and maintenance of the scheme.



Schemes at Pauri district

In village Talla Bhanas, water supply scheme from spring through gravity and solar pumping is completed and all private connections for 81 household and distribution work of water supply scheme is completed.



In village Tasila Malla, all work of private connections for 29 household and distribution is completed of Solar Pumping Water Supply Scheme. Water supply scheme from spring is being implemented.

In village Malethi malli and Talli, all of distribution work of pipeline and private connections for 51 household of water supply scheme from spring through gravity is completed.

In village Kota Talla, all of distribution work of pipeline and private connections of water supply scheme from spring through gravity is completed. This scheme is for 68 household.

In Toli village, Solar Pumping Water Supply Scheme from spring through gravity is completed including construction of 14 RWHTs. This scheme is for 34 household.

In Moli village, 6 RWHTs were facilitated for 34 households.

Schemes in village Jasvawala of Bahadarabad block of Haridwar district

Overhead Tank of 175 KI capacity is completed



Around 500 private connection distributions are completed wherein functional taps were installed in individual household including school, Panchayat Ghar and other alike community utilities of the village.



Construction of Spring-shed management interventions

Various Spring-shed management interventions have been undertaken to augment and recharge water sources. These interventions include plantation/check dams/recharge pits/soil & water conservation structures, which have been constructed to protect the streams/springs and ensuring required flow in source. Village-wise status is as follows:

| SN | Village | Work done |
|----|---------|--------------------------------|
| | Toli | P1-300, PP-200, GCD-18, CT-300 |



| | | |
|--|-----------------------|-------------------------------|
| | Moli | PI-200, PP-50, GCD-2, CT-100, |
| | Kota Talla | PP-100, GCD-30, CT-300 |
| | Malethi Malli & Talli | PP-200, LBCD-122, CT-1000 |
| | Tashila Malla | PP-300, CT-500 |
| | Talla Banash | GCD-10 |
| PI: Plantation, PP: Percolation Pit, GCD: Gabian Checkdam, CT: Contour Trench, LBCD: Loose boulder check dam, GP: Gully Plug, DRP: Deep recharge pit | | |

Implementation of Sanitation (Individual & Community) Facility

This activity aimed to cover all the rural families to make village Open Defecation Free, accordingly implementation towards individual and community toilets have been done to make village open defecation free. A duly completed household sanitary latrine comprised of a toilet unit including a super structure has been facilitated. Following work has been implemented in villages:



| SN | Village | Target Toilet | Final Status |
|----|--------------------------|---------------------------------|---|
| 1 | Toli | 5 Individual, 2 Community | 3 Individual & 1 Community Completed |
| 2 | Moli | 6 | 5 Completed |
| 3 | Kota Talla | 9 | 8 Completed |
| 4 | Dhandoli | 3 | 2 Completed |
| 5 | Malethi Malli & Talli | 8 | 8 Completed |
| 6 | Talla Banash | 14 | All by Govt. |
| 7 | Jasuavawala | 64 | 29 |



Sanitation and Hygiene Program in Odisha

RDI has been supporting Gurukul Navprabhat Vedic Vidyapeeth in Odisha in its sanitation programmes since 2019. Several capacity building activities were conducted for the Gurukul staff. First, the staff (4 members) visited RDI for a 3-day training programme covering all components of sanitation, hygiene, MHM and rural development.



Subsequently, RDI teams visited Odisha and conducted various activities in the Gurukul as well as in their outreach areas. The team conducted sessions on community mobilisation, water conservation, water quality, sanitation, hygiene, environment, behaviour change and personality development. The resource material: saafkins, booklets (Pani ki Kahani), sports items were also distributed in the Gurukul. The programme was completed in 2022.

Other Activities

Plantation

Watsan unit pioneered plantation activity with State Forest Dept, Govt. of Uttarakhand at Swami Rama Himalayan University Campus wherein Inaugural Plantation was



done by Hon'ble Vice Chancellor (SRHU) in association with Mr. Dobhal (Ranger, State



Forest Dept) and Er. H.P. Uniyal (Advisor-SRHU). Around 3300 plants including variety of Anwala, Harad, Baheda, Jamun, Kachnaar, Shahtut, Amaltas are planted along the boundary of SRHU.

Har Ghar Diwali Mahotsav

Har Ghar Jal Diwali Festival was celebrated on 20 October under Jal Jeevan Mission by Watson-HIHT under Sector Partner Program in Bhitri Gram Panchayat of block Sahaspur of Dehradun district. Since water related awareness and education has been imparted in the village for last two years to the community. On



the occasion of festival of light, they were gathered to celebrate the festival with consciousness regarding judicious use of water along with the collective responsibility of maintaining the quality of water. They were congratulated for Har Ghar Jal accomplishment and the happiness of reaching the water at every home. Watson-HIHT painting on a clay pot was done and a tap was installed, which was presented to Village Pradhan. Sweets and crackers were also distributed to the villagers.