

**Report on**

# **Sustainable Development**

## **Goal 15**



## **LIFE ON LAND**

As part of its commitment to SDG 15—Life on Land, SRHU has undertaken impactful initiatives to enhance campus biodiversity through strategic tree plantation and ecological preservation efforts.

## 1. Enhancing Campus Biodiversity and Tree plantation

SRHU sustains a lush green belt covering approximately 160,800 square meters, enriched with over 5,000 trees. The University ensures ongoing care and expansion of its green spaces through its in-house nursery, operated by a dedicated team of staff members. This well-maintained natural environment supports a thriving biodiversity, including 125 floral species, along with a variety of fauna such as 15 bird species, 22 butterfly species, and various reptiles and amphibians, turning the campus into a natural habitat and live biodiversity lab for students and researchers.



Snippets of lush green campus supporting biodiversity







**Numerous varieties of trees, shrubs and seasonal plants across the University premises support fauna**

#### **a. Cultural Conservation through Harela Festival**

SRHU celebrates Harela, a traditional Uttarakhandi festival symbolizing environmental reverence, with an annual campus-wide tree plantation drive. This festival not only honors local cultural heritage but also reinforces the value of nature worship and conservation among students and staff. Over the past few years, more than 100 trees of high ecological and medicinal importance — including Jamun, Amla, Litchi, Pipal, Haldi, Amaltas, Lagerstroemia, and Gulmohar — have been planted. These events have

been led by Chancellor Dr. Vijay Dhasmana, who emphasized reconnecting the younger generation with traditional wisdom and environmental ethics. On July 16, 2025, SRHU celebrated the traditional Harela festival — a symbol of harmony with nature — by planting nearly 500 saplings across its campus. Saplings included Jamun, Peepal, Amaltas, Neem, and Lagerstroemia, known for their ecological and spiritual significance.

The campaign was inaugurated by President Dr. Vijay Dhasmana, who emphasized that “Harela is not just a festival, but a commitment to ecological responsibility.” University leadership, faculty, and staff joined hands to reaffirm SRHU’s ethos of environmental conservation and cleanliness as civic duties.



**Harela celebration (2025) at SRHU fostering cultural awareness and biodiversity conservation**





**Annual Harela Celebrations at SRHU Reinforce Commitment to Cultural Heritage and Environmental Stewardship**

**b. 'A Tree in the Name of Mother' – Independence Day Drive**

On 15th August 2024, SRHU launched a unique initiative titled 'A Tree in the Name of Mother' to mark the 78th Independence Day. Spearheaded by Chairman Dr. Vijay Dhasmana, this plantation drive celebrated the bond between patriotism and environmental stewardship. Faculty, staff, and students participated enthusiastically, planting trees as a tribute to their mothers, symbolizing nurturing care for both family and the planet.



**Marking Independence Day with Purpose: Tree plantation drive at SRHU, symbolizing gratitude to mothers and commitment to nature**

### c. World Environment Day Celebrations

Every year on June 5, SRHU observes World Environment Day with campus-wide and village-level plantation drives. The day serves as a powerful reminder of SRHU's ongoing commitment to biodiversity, sustainability, and climate action. Tree planting, environmental pledges, and awareness campaigns are organized across departments, encouraging deep environmental consciousness among students and faculty alike. On June 5, 2025, the University carried out a series of activities across its academic schools. This year's theme, "Ending Plastic Pollution," was interwoven with initiatives aimed at fostering a deeper environmental consciousness among students and faculty. A highlight of these activities was the Tree Plantation Drive.



**Students from SST and SPS at SRHU actively participate in a tree plantation drive, demonstrating their commitment to environmental sustainability and community engagement**

### d. Tree Plantation by RDI

The Rural Development Institute (RDI) at Swami Rama Himalayan University continues to champion environmental sustainability through grassroots-level action. As part of its ongoing commitment to ecological restoration and community empowerment, the RDI team has organized multiple tree plantation drives across rural areas in Uttarakhand. These drives, conducted in collaboration with local villagers, schoolchildren, and community leaders, focus on planting medicinal, fruit-bearing, and native trees that not only enhance green cover but also support livelihoods and long-term environmental resilience.





**RDI at SRHU conducts community-driven tree plantation initiatives, empowering local residents to actively participate in ecological restoration and environmental stewardship**





**RDI's collaborative plantation drives bring together stakeholders, faculty, and villagers to promote shared responsibility in biodiversity conservation and sustainable development**

## 2. Enhancing Environmental Awareness and Education

In alignment with global imperatives such as the University has undertaken a series of structured, interdisciplinary, and participatory initiatives to cultivate environmental literacy and promote ecologically responsible behavior across its academic and social ecosystem.

### a. Academic Lectures and Expert Dialogues

- On April 23, 2024, a guest lecture was organized under the auspices of the National Academy of Sciences, Uttarakhand Chapter. Distinguished environmentalist and historian Mr. Ajay Sharma delivered a keynote address, wherein he contextualized the anthropogenic causes of ecological degradation and underscored the importance of environmental stewardship. The lecture also



offered a historical and geographical perspective on the evolution of Dehradun's urban and ecological landscape. Vice-Chancellor Dr. Rajendra Dobhal highlighted the relevance of the 2024 Earth Day theme, "*Planet vs. Plastic*", emphasizing SRHU's institutional initiatives such as the establishment of a plastic bank to support the reduction of single-use plastics and enhance waste management systems.



**Distinguished environmentalist Mr. Ajay Sharma delivers the keynote address during the Earth Day guest lecture at SRHU, highlighting the historical, geographical, and ecological evolution of Dehradun**

- On June 5, 2024, SRHU hosted an inter-institutional seminar on environmental protection, with a focus on river conservation and drought preparedness. Eminent speakers including Dr. Lokesh Ohri (Been There Doon That), Dr. Brij Mohan Sharma (SPECS), and Dr. Vinod Bhatt (Navdanya Biodiversity Farm) addressed critical themes such as biodiversity preservation, ecosystem resilience, and indigenous knowledge systems for sustainable agriculture. Select faculty members and researchers were also formally recognized for their contributions to environmental sustainability.



**Eminent speakers and participants at the inter-institutional seminar on World Environment Day 2024 at SRHU, which focused on river conservation, drought preparedness, and sustainable ecological practices**

- In September 2024, SRHU's Himalayan School of Pharmaceutical Sciences (HSPS) and Rural Development Institute (RDI) jointly hosted a special session featuring Padma Bhushan awardee Shri Chandi Prasad Bhatt. Drawing upon his decades of experience in grassroots environmental activism, Mr. Bhatt contextualized the challenges confronting Himalayan ecosystems—such as deforestation, resource overuse, and climate vulnerability—and advocated for collaborative,



interdisciplinary responses involving policymakers, scientists, and communities. He also emphasized the role of higher education institutions in fostering ecological literacy, sustainable development, and student-led environmental initiatives. ([For more information](#))



**Padma Bhushan awardee Shri Chandi Prasad Bhatt addresses SRHU students on Himalayan environmental challenges and the importance of collaborative and sustainable action for environmental protection**

### b. Pedagogical Integration and Student Engagement

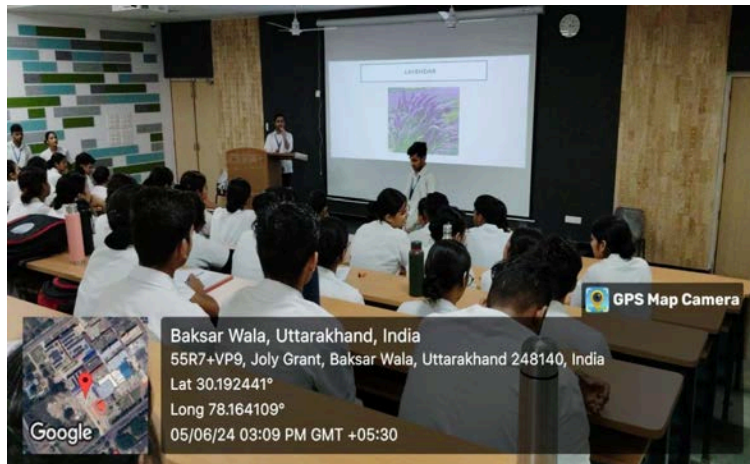
- The Himalayan College of Nursing (HCN) marked World Environment Day through a creative engagement initiative involving poster and slogan competitions. Under the supervision of Ms. Preeti Prabha, and guided by Principal Dr. Sanchita Pugazhendi, students produced 16 entries highlighting core environmental themes such as deforestation, pollution, climate change, and biodiversity loss. The initiative served as a pedagogical tool to integrate environmental discourse into nursing education while fostering cross-disciplinary awareness.



**Students of the Himalayan College of Nursing (HCN) actively engage in a poster-making competition, creatively expressing themes of environmental protection and sustainability**

- An inter-semester environmental quiz was conducted with participation from 145 B.Sc. Nursing students, focusing on ecological principles, current environmental challenges, and climate policy frameworks. The competition sought to promote informed citizenship among future healthcare professionals and was coordinated by the Literary Committee of HCN.





**B.Sc. Nursing students of Himalayan College of Nursing (HCN) participate in an inter-semester environmental quiz aimed at enhancing ecological literacy and awareness of climate policy**

- On April 22, 2025, the IEEE Student Branch at SRHU hosted a multidisciplinary event titled “Green Future: Celebrating World Earth Day”. Activities included a quiz competition, environmental skit, wellness and sustainability session, and a campus-wide plantation drive. The program, attended by 132 students, effectively bridged scientific discourse with civic action and cultural expression, demonstrating the value of experiential learning in environmental education.





**Students of SRHU's IEEE Student Branch take a collective pledge to protect the environment during the 'Green Future: Celebrating World Earth Day' event on April 22, 2025**

**c. Community Outreach and Field-Based Environmental Literacy**

- The Department of Community Health Nursing (HCN) conducted a targeted environmental awareness campaign in Thano village, engaging local schoolchildren through theatrical performances and poster exhibitions. The event also included a tree plantation ceremony led by faculty members, reinforcing the role of community-based participatory models in environmental education.





**HCN faculty and students lead environmental awareness and tree plantation activities with schoolchildren in Thanos village**

### **3. Combatting Land Degradation and Desertification**

#### **a. Rainwater Harvesting**

Swami Rama Himalayan University (SRHU) receives an average annual rainfall of 2073.3 mm, creating significant potential for rainwater harvesting. The total annual volume of rainwater available across various campus surfaces—including rooftops, paved roads, open areas, and green belts—has been estimated at approximately 3,81,408.7 cubic meters. To harness this resource efficiently, SRHU has implemented a comprehensive rainwater harvesting system featuring 16 recharge pits, 2 borewell recharge units, and 3 additional recharge pits constructed during 2024–25 to enhance groundwater recharge capacity.

A notable initiative includes the installation of an innovative 150 KL underground rainwater harvesting tank at the Medical College, equipped with an advanced filtration unit tailored to rainfall patterns. This system is designed to supply 3,000 liters per day for use in 119 toilets and 138 bathroom taps across the Medical and Nursing Colleges. Annually, 9.45 lakh liters of harvested water are used for sanitation, while 1.57 crore liters are recharged into the ground through infiltration wells. These measures support long-term groundwater sustainability, reduce dependence on municipal supply, and demonstrate



SRHU's commitment to environmental stewardship.



Rainwater Harvesting Pit at SRHU

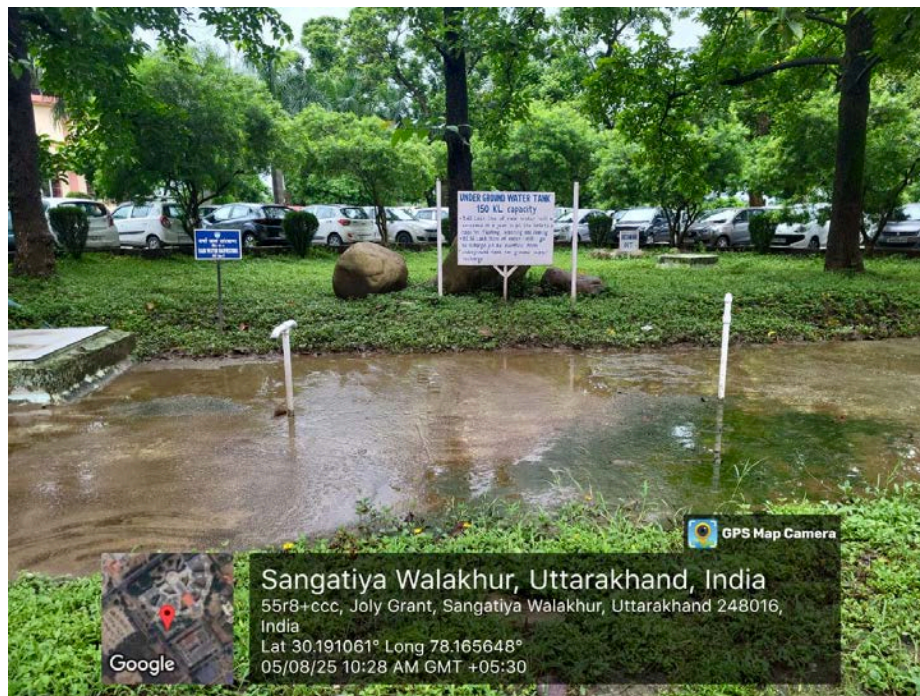


Rain water harvesting pit at SRHU near MBBS girls Hostel



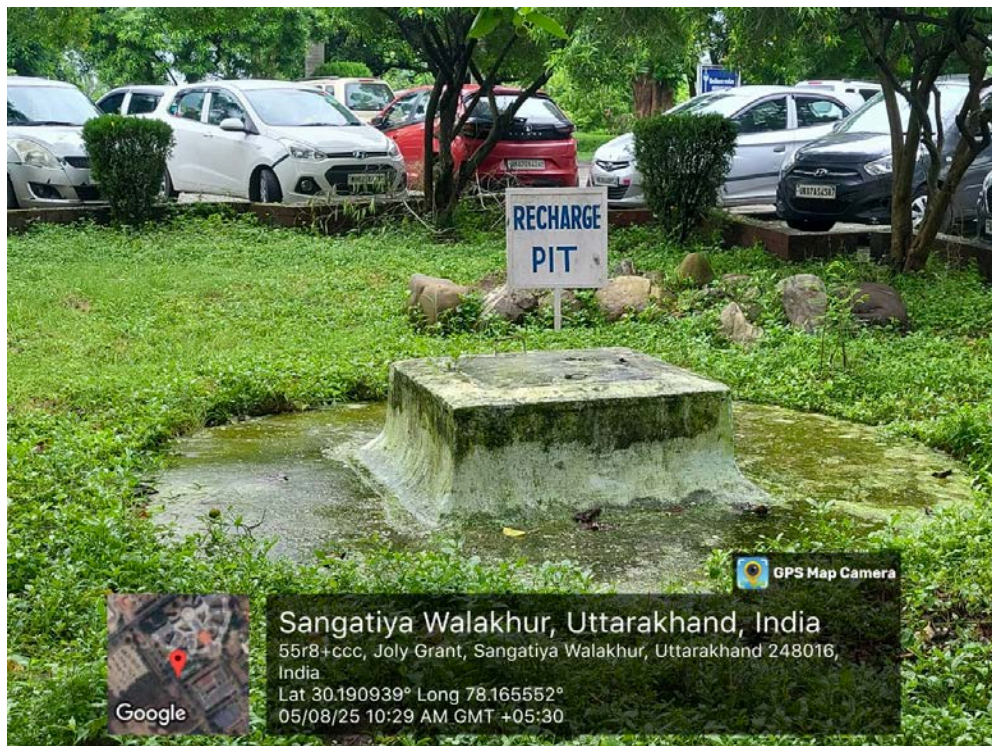


Rain Harvesting pit near Cardio Block ,SRHU



Underground water tank at SRHU





Recharge Pit near University Office

## 4. Reduction of Pollution and Degradation

### a. Soil Conservation Through Effluent Treatment

Swami Rama Himalayan University (SRHU), in its commitment to environmental sustainability and responsible resource management, has implemented a robust Effluent Treatment Plant (ETP) to contribute actively towards soil conservation and ecological health, in alignment with Sustainable Development Goal (SDG) 15: Life on Land. The wastewater generated from multiple sources across the SRHU campus—including laboratories, laundry services, hospital facilities, and utility areas—is collected and treated through two advanced systems:

A Sewage Treatment Plant (STP) using Moving Bed Biofilm Reactor (MBBR) technology combined with extended aeration-activated sludge process, which ensures the effective removal of organic and



inorganic matter.



**Sewage Treatment Plant (STP) with capacity of 1mld located at SRHU**



**Activated carbon and dual media filters in operation for advanced wastewater treatment**





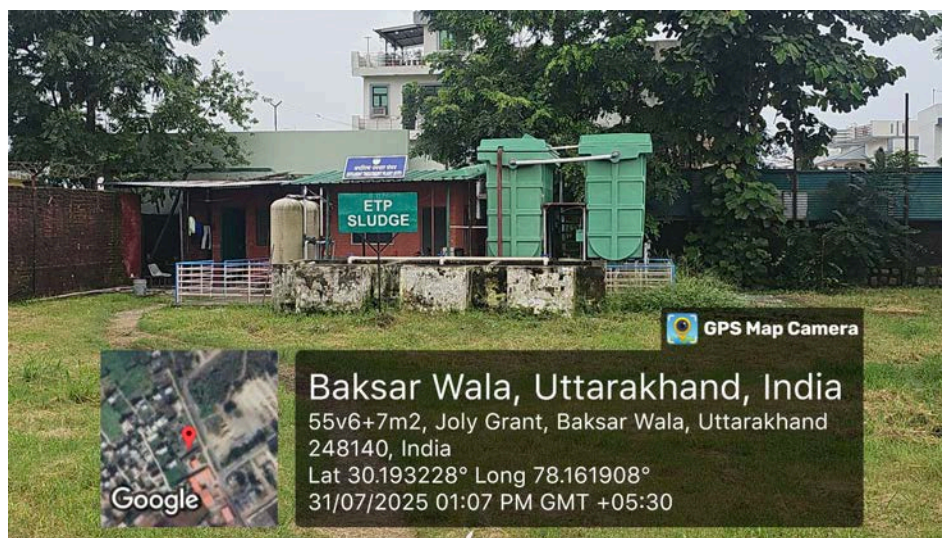
High-capacity air blowers in operation to support the aeration process



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



A dedicated Effluent Treatment Plant (ETP) with a daily capacity of 90,000 liters, designed specifically to remove toxic and non-toxic chemical substances, especially those emanating from hospital and laboratory operations. The ETP ensures the wastewater is treated to meet or exceed the safety and environmental standards prescribed by the State Pollution Control Board. The treated water undergoes rigorous quality assessments before being repurposed for horticultural use across the University's parks, gardens, and green zones.

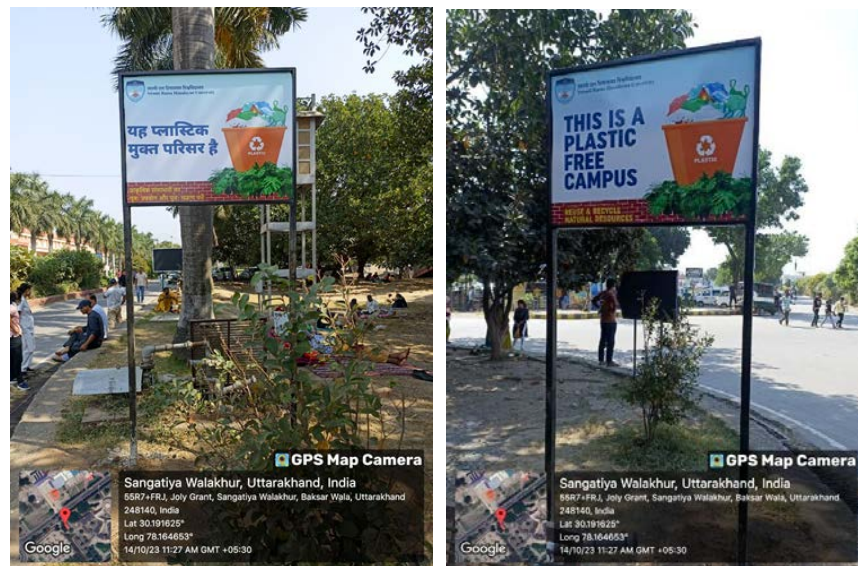


**ETP at SRHU designed to treat and recycle wastewater from institutional activities, ensuring compliance with environmental norms**

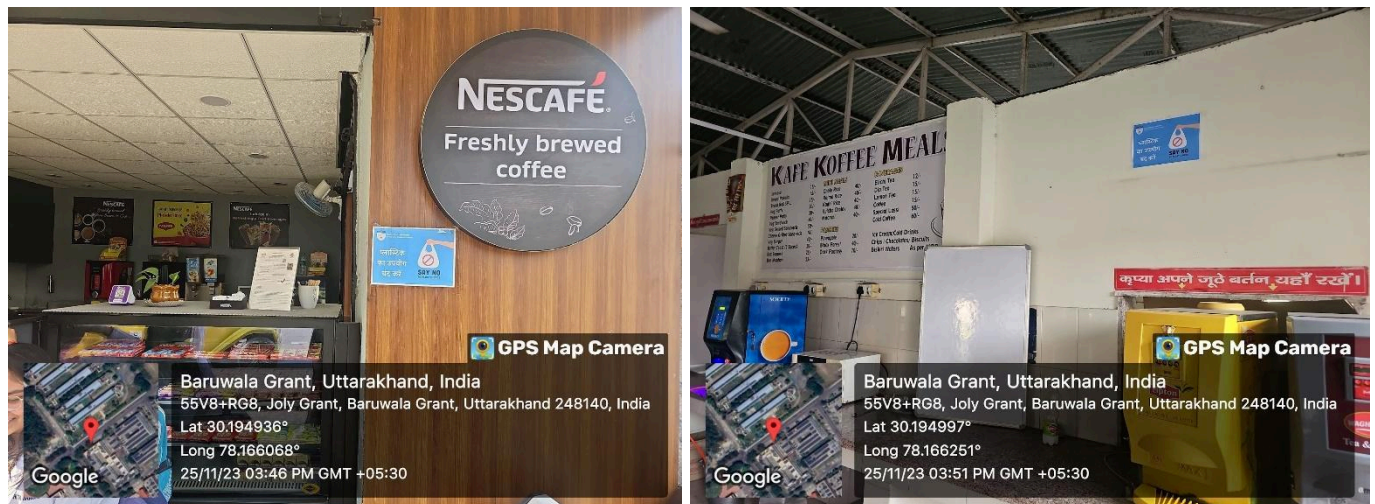


## b. Plastic-Free Campus

To reinforce its commitment to sustainability, the University has installed "Plastic-Free Campus" signage across the campus. These signs serve as constant reminders for students, staff, and visitors to avoid single-use plastics and support the university's initiatives like the Plastic Waste Bank and plastic-to-diesel recycling project. The signage not only promotes awareness but also fosters a culture of environmental responsibility within the University community.



Signages promoting a plastic-free campus at SRHU, encouraging sustainable practices among students and staff



Plastic-Free Campus signage at SRHU promoting sustainability.



### c. Plastic Bank for Recycling

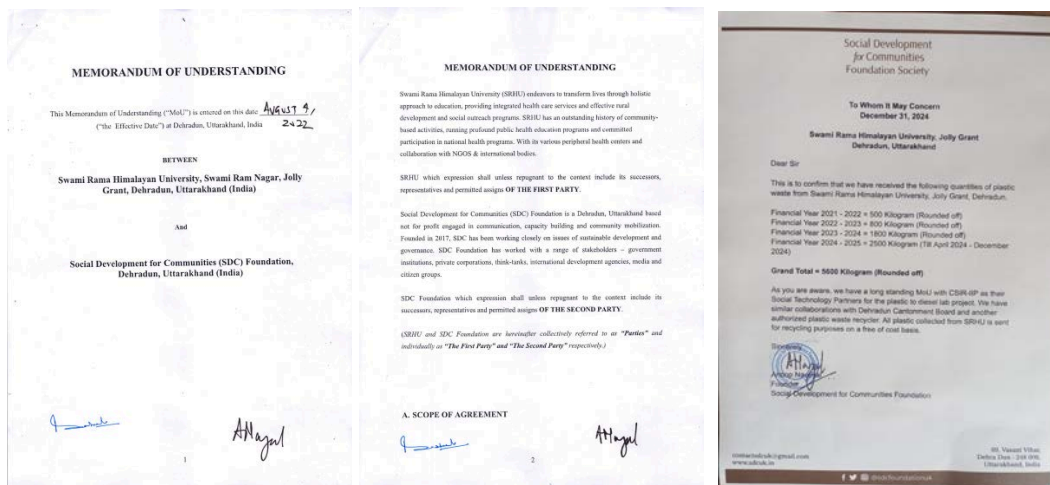
SRHU has established a plastic bank aimed at promoting the recycling of single-use plastics. This initiative encourages the collection and proper disposal of plastic waste, contributing to the reduction of plastic pollution on campus.



**Plastic Bank at SRHU promoting recycling and reducing plastic waste on campus**

### d. Innovative Plastic-to-Diesel Initiative:

From 2021 to 2025, Swami Rama Himalayan University recycled a total of 5,600 kg of plastic in collaboration with CSIR-IIP, its Social Technology Partner for the Plastic-to-Diesel Lab project. This initiative, launched alongside the 'Plastic Waste Bank' in 2022, reflects the University's commitment to sustainable waste management and innovative recycling solutions. Through this partnership, collected plastic waste was processed into fuel, supporting both environmental conservation and technological advancement in plastic waste utilization.



**MoU between SRHU and SDC for sustainability and plastic waste management**

## 5. Integration of Renewable Energy and Sustainable Practices

### a. Solar Power Initiatives

As part of its broader mission to reduce its carbon footprint and environmental impact, SRHU has made solar energy adoption a central component of its energy strategy.

### SRHU Solar Power Initiatives and SDG 15 Alignment

S. No.	Initiative/Component	Details
1.	<b>Total Solar Energy Generated (Past 3 Years)</b>	6,112,417 kWh
2.	<b>Total Electricity Demand (3 Years)</b>	43,682,417 kWh
3.	<b>Percentage of Energy Met by Solar</b>	13.99% of total electricity demand
4.	<b>Estimated Cost Savings</b>	₹1.96 crore (approx.)
5.	<b>Surplus Energy Exported to Grid</b>	<ul style="list-style-type: none"> <li>2021–2022: 80,160 kWh</li> <li>2022–2023: 121,260 kWh</li> <li>2023–2024: 114,796 kWh</li> </ul>
6.	<b>New Solar Plant Commissioned</b>	17 August 2024
7.	<b>New Solar Plant Capacity</b>	1 MW rooftop solar (545-watt modules)
8.	<b>Plant Area Covered</b>	~4,500 square meters
9.	<b>Monthly Energy Generation (New Plant)</b>	Approx. 136,435 kWh/month
10.	<b>Power Purchase Agreement (PPA) Partner</b>	M/S Baskhi Engineering Works
11.	<b>Environmental Impact</b>	<ul style="list-style-type: none"> <li>Reduced fossil fuel reliance</li> <li>Lowered GHG emissions</li> <li>Contributed to regional energy sustainability</li> </ul>

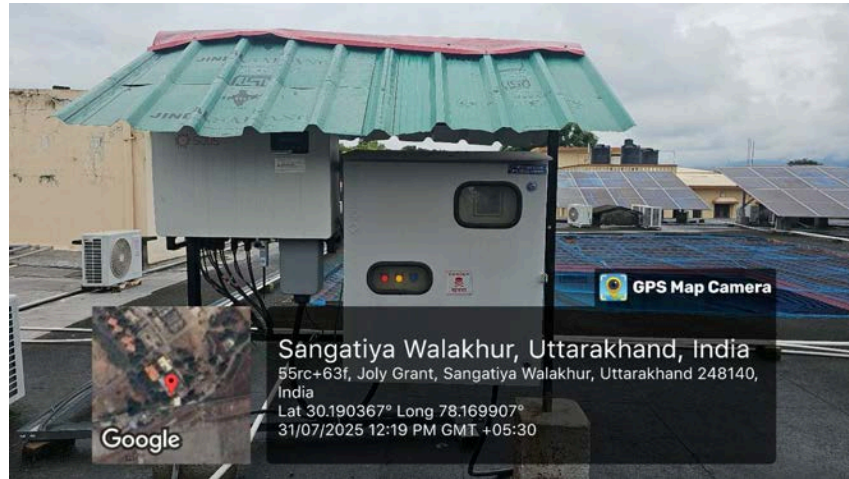




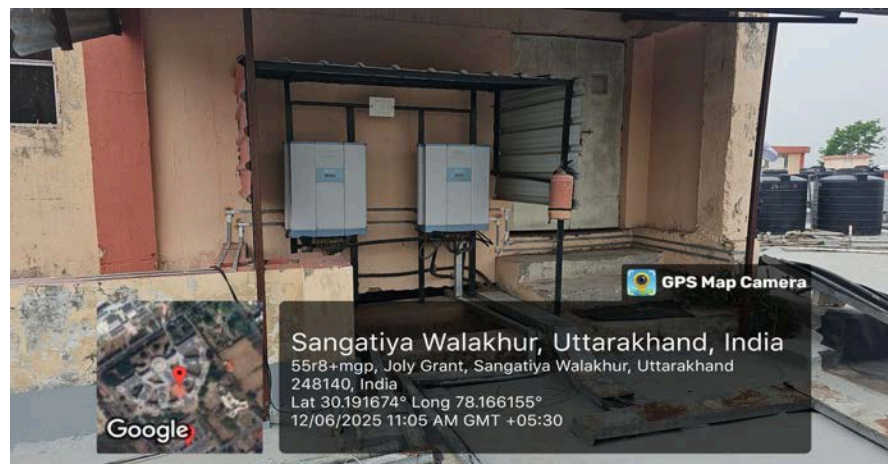
### Installation of New Solar Power Plant at Swami Rama Himalayan University



**Rooftop solar panels at School of Management and School of Science and technology harnessing renewable energy to promote sustainability and reduce carbon footprint**

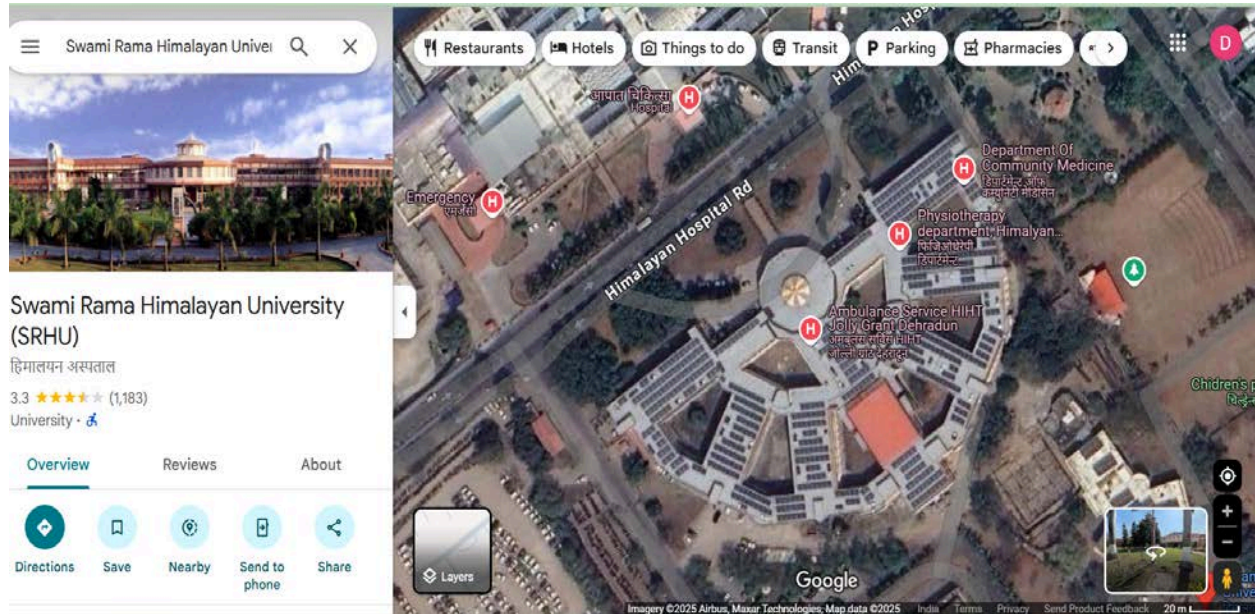


**Inverter and Electrical Control Panel at the Guest House Rooftop**



**Solar PV plant on- grid inverter for wheeling to the grid**





**Aerial view of Solar panels at HIMS (Google Maps)**

## **b. Promotion of Bicycle Usage**

SRHU promotes the use of bicycles as a sustainable, healthy, and zero-emission mode of transport within the campus. The campus infrastructure is designed to support cycling with wide internal roads and minimal motor vehicle traffic, making it safe for cyclists. The campus offers an e-bike rental facility exclusively for students to conveniently travel across the university grounds. These electric bikes provide an eco-friendly, efficient, and cost-effective way to navigate the campus, reducing reliance on conventional vehicles and promoting sustainable mobility. Students can rent e-bikes for short durations, making it easier to attend classes, visit facilities, and move around quickly without hassle. This initiative supports the university's commitment to green transportation and enhances the overall campus experience.





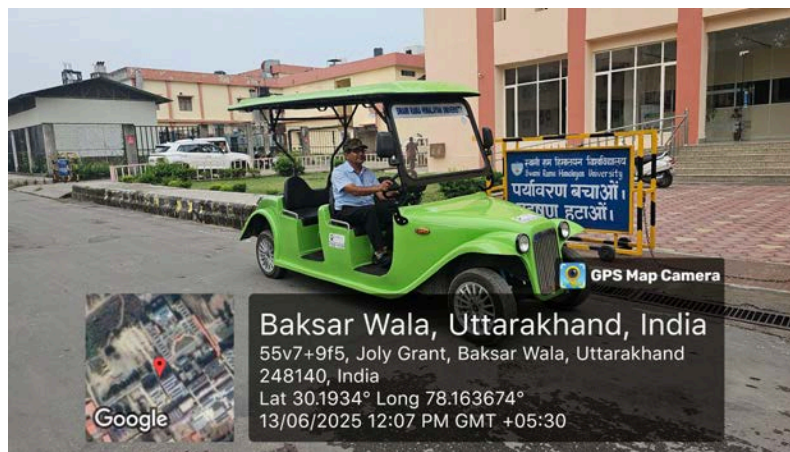
**E-bike rental facility available for students to commute sustainably across the campus**

### c. Electric Vehicle for Internal Transport

The institution is committed to promoting sustainable and eco-friendly transportation solutions within the campus. We have integrated electric vehicles (EVs) into our campus mobility system, facilitating efficient and green transportation for students, faculty, and staff. These EVs are maintained through a



structured energy management approach, ensuring their readiness and reliability for campus operations. In alignment with national guidelines and the evolving landscape of EV infrastructure



Electric vehicle used on campus to promote green and sustainable transportation

## 6. Research Initiatives

The University's research initiatives encompass sustainable utilization of natural resources, soil and water quality assessment, bioremediation, agro-ecological sustainability, and the preservation of endangered flora and fauna. Key research efforts include investigations into plant growth-promoting microbes, rhizomicrobiome applications for bioremediation, and sustainable agriculture techniques integrating nanotechnology and bio-nanocomposites. Studies on traditional and underutilized fruits, such as *Ficus auriculata* and *Saussurea obvallata*, reflect SRHU's emphasis on conserving Himalayan biodiversity and promoting local nutraceutical resources. Additionally, environmental risk assessments related to radionuclide contamination and pollution underscore the university's focus on safeguarding soil and water ecosystems.

SRHU also prioritizes the circular economy and sustainable waste management, evidenced by research on biochar production, microbial keratinase applications, and valorization of agro-industrial byproducts. The institution's dedication to ecological restoration and climate resilience is further highlighted by work on rhizoremediation of polyaromatic hydrocarbon-contaminated soils and organic farming practices adapted to Himalayan environments.

Catalog of Scopus-Indexed Articles Aligned with SDG 15:

SN	Title	DOI
1.	Experimental investigation on the spectral, mechanical, and thermal behaviors of thermoplastic starch and de-laminated talc-filled sustainable bio-nanocomposite of polypropylene	10.1515/jmbm-2024-0031
2.	Mapping of radionuclides for radiological impact assessment in cultivated soil of Punjab, India	10.1016/j.apradiso.2025.111881
3.	Corrigendum to "Comprehensive review of sustainable utilization of <i>Arenga obtusifolia</i>	10.1016/j.jafr.2024.101619



	Griff. as a food"	
4.	Sal ( <i>Shorea robusta</i> ) seed oil: A sustainable alternative for cocoa butter and edible oil	10.1016/j.fufo.2025.100655
5.	Modern spectroscopic techniques for drug discovery and environmental sustainability	10.4018/979-8-3693-7473-3
6.	Near-infrared spectroscopy for nutrient analysis in manure: Techniques, applications, and innovations	10.4018/979-8-3693-7473-3.ch012
7.	<i>Ficus auriculata</i> Lour., an underutilized nonconventional alternative fruit to <i>Ficus carica</i> with nutraceutical potential	10.1007/s43621-024-00480-3
8.	Anti-diabetic potential of <i>Rubus</i> species: linking conventional knowledge with scientific developments: a review	10.1186/s43014-024-00263-3
9.	A comparative investigation of ultrasonication and magnetic stirring methods for green synthesis of zinc oxide nanoparticles using <i>Punica granatum</i> peels	10.1038/s41598-025-04926-0
10.	Serving local produce in homestays for socio-economic development in Uttarakhand	10.4018/979-8-3373-0427-4.ch011
11.	Hospital-associated effluents: the masked environmental threat that needs urgent attention and action	10.1007/s42452-024-06456-2
12.	Plant-microbes-nanofertilizers and their interactions for plant growth promotion and stress management	10.1016/B978-0-443-22285-6.00007-0
13.	Design expert based optimization of the pyrolysis process for the production of cattle dung bio-oil and properties characterization	10.1038/s41598-024-57843-z
14.	Study of radiation exposure to radon in groundwater using scintillation-based RnDuo technique: A statistical analysis for risk	10.1016/j.apradiso.2025.111789

	assessment	
15.	Environmental restoration of polyaromatic hydrocarbon-contaminated soil through sustainable rhizoremediation: insights into bioeconomy and high-throughput systematic analysis	10.1039/d4va00203b
16.	Assessment of soil gas radon migration and transport through the estimation of radon diffusion length and diffusion coefficient in the soil matrix	10.1016/j.net.2024.11.007
17.	Isolation and Characterization of Plant Growth Promoting Endophytes from <i>Linum Usitatissimum</i>	10.30564/re.v7i2.9406
18.	In vitro propagation, synthetic seeds production and clonal fidelity assessment of regenerants of endangered herb <i>Rheum emodi</i>	10.25303/1912rjbt070078
19.	Spectroscopy: A powerful tool for evaluating soil fertility and assessing soil health	10.4018/979-8-3693-7473-3.ch014
20.	Enhancing the functionality of extruded snack (namkeen) using indigenous ingredients of Uttarakhand, India: A predictive modelling approach for shelf-life optimization	10.1007/s44187-025-00333-6
21.	Estimates of the burden of human rabies deaths and animal bites in India, 2022–23: a community-based cross-sectional survey and probability decision-tree modelling study	10.1016/S1473-3099(24)00490-0
22.	Measurement of natural radionuclides and health risk assessment in soil samples of the Main Central Thrust region in Garhwal Himalaya, India	10.1007/s10661-024-13569-z
23.	Exploring Papaya Byproducts: A Step toward Circular Economy and Sustainability	10.1021/acsfoodscitech.4c00872
24.	Comprehensive review of sustainable utilization of <i>Arenga obtusifolia</i> Griff. as a food	10.1016/j.jafr.2023.100945



25.	Minor flowers of European and American Countries	10.1016/B978-0-443-13769-3.00020-0
26.	Human exposure to uranium through drinking water and its detrimental impact on the human body organs	10.1007/s10653-024-02150-9
27.	Harnessing the potential of microbial keratinases for bioconversion of keratin waste	10.1007/s11356-024-34233-6
28.	Biochar production methods and their transformative potential for environmental remediation	10.1007/s42452-024-06125-4
29.	Fishers 4.0: Revolutionizing Contemporary Fisheries Management through Industry 4.0 Integration	10.1109/HISET61796.2024.00054
30.	Saussurea obvallata (King of Himalayan flower)	10.1016/B978-0-443-13769-3.00015-7
31.	Himalayan fruit and circular economy: nutraceutical potential, traditional uses, challenges and opportunities	10.1186/s43014-023-00220-6
32.	United nations sustainable development goals in the context of hydrological extremes	10.1016/B978-0-443-21499-8.00014-3
33.	Exploring the potential of novel Bacillus sp. G6: Isolation, characterization, and optimization of biosurfactant production from oil-contaminated soil	10.1016/j.molliq.2024.124013
34.	Editorial: Potential of the plant rhizomicrobiome for bioremediation of contaminants in agroecosystems	10.3389/fpls.2024.1397360
35.	Rhizomicrobiome as a potential source of microbial inoculants for use in in vitro biotization mediated acclimatization of micropropagated plants	10.1016/B978-0-443-23691-4.00015-4
36.	Impact of Microorganism-Based Bioremediation on the Fauna and Flora of Different Matrices	10.1201/9781003310136-18

37.	Medicinal Plants of South and Southeast Asia; Bombax ceiba (Red silk cotton)	10.1016/B978-0-443-13769-3.00001-7
38.	Traditional and Underutilized Fruits and Vegetables for Attaining Zero Hunger	10.1007/978-3-031-51647-4_8
39.	Microbial Technology for Agro-Ecosystems: Crop Productivity, Sustainability, and Biofortification	10.1016/C2021-0-03424-6
40.	Effect of Engineered Nanoparticles on Rhizospheric Microbes	10.1007/978-981-97-2355-3_3
41.	SSR In Genome Sequences Of Tartary Buckwheat	10.1109/HISET61796.2024.00046
42.	Microbiological dimensions and functions in constructed wetlands: A review	10.1016/j.crmicr.2024.100311

## 7. Recognition for Green Practices

The University earned top honours in 2025 at regional sustainability forums, including the Platinum Award for green practices at the CII Northern Region and previously securing the Gold Award from CII for eco-friendly initiatives. Before this, SRHU was recognized as Renewable Energy Champion at CII-Northern Region Green Practices Awards, 19-20 December, 2024, Gurugram.





**SRHU bagged the Platinum Award in the Service Category at the 4th CII Northern Region Green Practice Awards 2025, recognizing its strong commitment to environmental sustainability**



**SRHU recognized as Renewable Energy Champion at CII-Northern Region Green Practices Awards 2024**