Swami Rama Himalayan University

NAAC A+

Report on

Sustainable Development Goal 15



LIFE ON LAND

2025

SDG 15: Life on Land

Swami Rama Himalayan University (SRHU) supports SDG 15 through research, education, practical action, and environmentally responsible waste management. Research on life on land is reflected through SRHU's work on biodiversity, soil health, bioremediation, endangered Himalayan medicinal plants, plant–microbe interactions, and environmental restoration. The University has produced 39 publications aligned with SDG 15 during 2021–2025, including research on soil remediation, plant growth-promoting endophytes, and conservation of endangered Himalayan flora. Education related to land ecosystems is supported through academic and environmental awareness activities that promote understanding of terrestrial ecosystems and sustainable environmental practices. Supporting land ecosystems through action includes plantation and green-campus initiatives, conservation-oriented activities, and efforts to maintain and expand green cover. Land-sensitive waste disposal is addressed through segregation, recycling, composting, biogas generation, and responsible disposal of non-biodegradable and hazardous waste, helping reduce environmental impacts on land and surrounding ecosystems.

15.1 Research on Land Ecosystems

Since the inception of SRHU's research engagement with SDG 15 (Life on Land) in 2017, the university has produced a cumulative total of 47 publications aligned with the goal. During the most recent five-year period (2021–2025), 39 publications were identified as contributing to SDG 15, representing 83.0% of the university's total SDG 15 research output since inception. Of these, 6 publications were published in 2025, accounting for 15.4% of the five-year output.

Research Metric	Value
Total Publications during 2021-2025	39
FWCI	2.17
Citation Count	942
Total Views	1328

15.1.1 Life on Land: CiteScore

During the 2021–2025 reporting period, SRHU produced 39 publications aligned with SDG 15, of which 25 report CiteScore data, with an average of 6.04. In 2025, 5 out of 6 publications report CiteScore data, with an average of 5.38.

List of Publications with Citescore

S.No	Paper Title	Authors	Journal / Book Name	Year	CiteScore	DOI
1	Environmental restoration of polyaromatic hydrocarbon-contaminated soil through sustainable rhizoremediation: insights into bioeconomy and high-throughput systematic analysis	Environmental Science: Advances	Das, N.| Kumar, V.| Chaure, K.| Pandey, P.	2025	9.8	10.1039/d4va00203b
2	Biological removal of iron content from water sources using iron-oxidizing bacteria: a review	Environmental Pollutants and Bioavailability	Bahuguna, M.| Joshi, N.| Bhandari, G.| Singh, P.| Gupta, S.| Rafatullah, M.| Anggayasti, W.L.| Huda, N.	2025	6.9	10.1080/26395940.2025.2556182
3	Iron bioremediation by utilizing biochar-bacterial composites	BMC microbiology	Bahuguna, M.| Bhandari, G.| Joshi, N.| Singh, P.| Gupta, S.| Gangola, S.| Chaube, S.	2025	6.5	10.1186/s12866-025-04564-6
4	Integrative study on Meizotropis pellita (Hook. f. ex Prain): phytochemistry, antibacterial potential, molecular insights, biological applications, and conservation strategies of a critically endangered Himalayan endemic plant	Vegetos	Bisht, A.| Rawat, B.| Rawat, J.M.| Purohit, S.| Kumar, S.	2025	2.6	10.1007/s42535-025-01508-3
5	Isolation and Characterization of Plant Growth Promoting Endophytes from Linum Usitatissimum	Research in Ecology	Bhandari, G.| Choudhary, S.| Deogaonkar, A.| Kumar, D.| Miglani, K.| Gupta, S.| Joshi, S.| Mittal, A.| Gangola, S.	2025	1.1	10.30564/re.v7i2.9406
6	Plant–Microbe Abetted Mitigation of Hazardous Pollutants: Toward a Green and Clean Agroecosystem	Microbial Solutions for Sustainable Agriculture	Sharma, C.| Rajput, V.| Dhillon, N.| Kumar, V.| Rani, U.| Choudhary, A.K.| Naik, B.| Kumar, V.	2025	-	10.1201/9781003714484-7

S.No	Paper Title	Authors	Journal / Book Name	Year	CiteScore	DOI
7	Exploring the potential of novel Bacillus sp. G6: Isolation, characterization, and optimization of biosurfactant production from oil-contaminated soil	Journal of Molecular Liquids	Rawat, G.| Kumar, V.| Kumar, A.| Naik, B.| Saris, P.E.J.| Khan, J.M.| Kumar, V.	2024	10.5	10.1016/j.molliq.2024.124013
8	Editorial: Potential of the plant rhizomicrobiome for bioremediation of contaminants in agroecosystems	Frontiers in Plant Science	Bhandari, G.| Gangola, S.| Bhatt, P.| Rafatullah, M.	2024	8.8	10.3389/fpls.2024.1397360
9	Micro-algae: Revolutionizing food production for a healthy and sustainable future	Journal of Agriculture and Food Research	Naik, B.| Mishra, R.| Kumar, V.| Mishra, S.| Gupta, U.| Rustagi, S.| Gupta, A.K.| Preet, M.S.| Bhatt, S.C.| Rizwanuddin, S.	2024	7.5	10.1016/j.jafr.2023.100939
10	Biofortification as a solution for addressing nutrient deficiencies and malnutrition	Heliyon	Naik, B.| Kumar, V.| Rizwanuddin, S.| Mishra, S.| Kumar, V.| Saris, P.E.J.| Khanduri, N.| Kumar, A.| Pandey, P.| Gupta, A.K.| Khan, J.M.| Rustagi, S.	2024	4.1	10.1016/j.heliyon.2024.e30595
11	Investigating chemical pre-treatment methods: Valorization of wheat straw to enhance polyhydroxyalkanoate (PHA) production with novel isolate Bacillus paranthracis RSKS-3	Heliyon	Sachan, R.S.K.| Devgon, I.| Sharma, V.| Perveen, K.| Bukhari, N.A.| Alsulami, J.A.| Jadon, V.S.| Suyal, D.C.| Karnwal, A.	2024	4.1	10.1016/j.heliyon.2024.e31572
12	Iimpact of Microorganism-Based Bioremediation on the Fauna and Flora of Different Matrices	Bioremediation of Environmental Toxicants: Toxicants, Sources, Mechanism, Impact on Human Health, and Bioremediation Approaches	Mathur, A.| Koul, A.| Rani, A.| Reddy, M.S.	2024	-	10.1201/9781003310136-18

S.No	Paper Title	Authors	Journal / Book Name	Year	CiteScore	DOI
13	Impact of Artificial Intelligence (AI) in Bioremediation of Dairy Effluent by Microalgae and the Potential Application of the Produced Lipid Byproducts	Internet of Medicine for Smart Healthcare	Dhillon, N.| Kumar, V.| Bhandari, G.| Gupta, S.	2024	-	10.1002/9781394272266.ch11
14	Nutraceutical Potential of Staple Food Crops	Herbal Nutraceuticals: Products and Processes	Joshi, A.| Gupta, A.K.| Jha, A.K.| Naik, B.| Kumar, V.| Rustagi, S.	2024	-	10.1002/9781394241576.ch16
15	Valorization of wastewater through bioremediation approach	Biotechnologies for Wastewater Treatment and Resource Recovery: Current Trends and Future Scope	Aswal, R.S.| Prasad, M.| Kumar, A.	2024	-	10.1016/B978-0-443-27376-6.00010-4
16	Esterase and ALDH dehydrogenase-based pesticide degradation by Bacillus brevis 1B from a contaminated environment	Environmental Research	Gangola, S.| Bhandari, G.| Joshi, S.| Sharma, A.| Simsek, H.| Bhatt, P.	2023	12.6	10.1016/j.envres.2023.116332
17	Exploring microbial diversity responses in agricultural fields: a comparative analysis under pesticide stress and non-stress conditions	Frontiers in Microbiology	Gangola, S.| Joshi, S.| Bhandari, G.| Pant, G.| Sharma, A.| Perveen, K.| Bukhari, N.A.| Rani, R.	2023	7.7	10.3389/fmicb.2023.1271129
18	Rhizospheric bacteria: the key to sustainable heavy metal detoxification strategies	Frontiers in Microbiology	Joshi, S.| Gangola, S.| Bhandari, G.| Bhandari, N.S.| Nainwal, D.| Rani, A.| Malik, S.| Slama, P.	2023	7.7	10.3389/fmicb.2023.1229828
19	Highly Potent Antioxidant/Antibacterial Biogenic ZnO Nanoparticles-Enabled Nano-Scavenger Reinforced by Aegle Marmelos (Linn) Rind's Extract	ECS Journal of Solid State Science and Technology	Kumar, A.| Rustagi, S.| Malik, S.| Choudhary, P.| Khan, Z.S.| Allam, A.Y.| Naik, B.| Kumar, V.| Chaudhary, V.	2023	4.5	10.1149/2162-8777/ace2e9

S.No	Paper Title	Authors	Journal / Book Name	Year	CiteScore	DOI
20	Microbial Biosurfactants and Their Implication Toward Wastewater Management	Handbook of Environmental Chemistry	Rawat, G.| Choudhary, R.| Kumar, V.	2023	2.9	10.1007/698_2022_877
21	Energy from Waste: Poterioochromonas malhamensis Used for Managing Dairy Effluent and Producing Valuable Microalgal Lipid	Journal of Pure and Applied Microbiology	Dhillon, N.| Gupta, S.| Kumar, V.| Bhandari, G.| Arya, S.	2023	2	10.22207/JPAM.17.2.48
22	Assessment of the genetic fidelity of true-to-type regenerants of medicinal plant Rheum emodi using RAPD and ISSR molecular markers	Research Journal of Biotechnology	Sweta, U.| Anjali, U.| Vijay, K.| Sanjay, G.	2023	0.6	10.25303/1809rjbt1980204
23	Applications of Bioremediation in Treatment of Environmental Pollution	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	Kumari, P.| Nag, S.| Dhasmana, A.| Bora, J.| Malik, S.	2023	-	10.1007/978-981-99-2598-8_17
24	Microalgae-based bioremediation of heavy metals and emerging contaminants	Algal Biotechnology	Rajput, V.| Kumar, V.| Jaiswal, K.K.| Gupta, S.| Kurbatova, A.I.| Vlaskin, M.S.	2023	-	10.1079/9781800621954.0013
25	Microbial exopolysaccharides and their application for bioremediation of environmental pollutants	Advanced Microbial Technology for Sustainable Agriculture and Environment	Vijaylakshmi| Hemwati Nandan, R.M.| Chaudhary, S.| Bhandari, G.	2023	-	10.1016/B978-0-323-95090-9.00014-5
26	Nanotechnology for bioremediation of industrial wastewater treatment	Advanced Application of Nanotechnology to Industrial Wastewater	Kumari, M.| Bora, J.| Dhasmana, A.| Sinha, S.| Malik, S.	2023	-	10.1007/978-981-99-3292-4_7
27	Nanotextured Materials for Soil Health	Advances in Nanotechnology for Smart Agriculture: Techniques and Applications	Adeleke, B.S.| Ayilara, M.S.| Sharma, D.| Sultana, R.| Mathur, M.| Bhandari, G.| Chaudhary, A.	2023	-	10.1201/9781003345565-15

S.No	Paper Title	Authors	Journal / Book Name	Year	CiteScore	DOI
28	Omics approaches to pesticide biodegradation for sustainable environment	Advanced Microbial Techniques in Agriculture, Environment, and Health Management	Gangola, S.| Joshi, S.| Bhandari, G.| Bhatt, P.| Kumar, S.| Pandey, S.C.	2023	-	10.1016/B978-0-323-91643-1.00010-7
29	Remediation of heavy metals by rhizospheric bacteria and their mechanism of detoxification	Advanced Microbial Technology for Sustainable Agriculture and Environment	Gangola, S.| Joshi, S.| Bhandari, G.| Bhatt, P.| Kumar, S.| Bhandari, N.S.| Mittal, A.	2023	-	10.1016/B978-0-323-95090-9.00005-4
30	Algae in wastewater treatment, mechanism, and application of biomass for production of value-added product	Environmental Pollution	Bhatt, P.| Bhandari, G.| Turco, R.F.| Aminikhoei, Z.| Bhatt, K.| Simsek, H.	2022	14.9	10.1016/j.envpol.2022.119688
31	Biotechnological tools to elucidate the mechanism of pesticide degradation in the environment	Chemosphere	Gangola, S.| Bhatt, P.| Kumar, A.J.| Bhandari, G.| Joshi, S.| Punetha, A.| Bhatt, K.| Rene, E.R.	2022	13.3	10.1016/j.chemosphere.2022.133916
32	Novel mechanism and degradation kinetics of pesticides mixture using Bacillus sp. strain 3C in contaminated sites	Pesticide Biochemistry and Physiology	Gangola, S.| Sharma, A.| Joshi, S.| Bhandari, G.| Prakash, O.| Govarthanan, M.| Kim, W.| Bhatt, P.	2022	7.6	10.1016/j.pestbp.2021.104996
33	Exploring Microbial-Based Green Nanobiotechnology for Wastewater Remediation: A Sustainable Strategy	Nanomaterials	Malik, S.| Dhasmana, A.| Preetam, S.| Mishra, Y.K.| Chaudhary, V.| Bera, S.P.| Ranjan, A.| Bora, J.| Kaushik, A.| Minkina, T.| Jatav, H.S.| Singh, R.K.| Rajput, V.D.	2022	7.4	10.3390/nano12234187
34	Evaluation of genetic diversity and population structure of Angelica glauca of	Research Journal of Biotechnology	Tarangini, R.| Sanjay, G.	2022	0.6	10.25303/1706rjbt1830188

S.No	Paper Title	Authors	Journal / Book Name	Year	CiteScore	DOI
	Uttarakhand region using ISSR markers					
35	Occurrence, Distribution, Conservation, Ethanobotanical and Pharmacological aspects of endangered medicinal herb belonging to Genus Rheum	Research Journal of Chemistry and Environment	Sweta, U.| Anjali, U.| Vijay, K.| Sanjay, G.	2022	0.4	10.25303/2607rjce168186
36	Microalgae: A promising tool for pesticide mitigation in wastewater	Pesticides Bioremediation	Rajput, V.| Jaiswal, K.K.| Kumar, V.| Vlaskin, M.S.| Nanda, M.| Kumar, S.| Verma, M.	2022	-	10.1007/978-3-030-97000-0_15
37	Microbial Fabricated Nanosystems: Applications in Drug Delivery and Targeting	Frontiers in Chemistry	Sachin, K.| Karn, S.K.	2021	6.6	10.3389/fchem.2021.617353
38	Assessment of genetic diversity of rheum species (Endangered Medicinal Herb of Indian Himalayan Region) using molecular markers	Research Journal of Biotechnology	Anjali, U.| Akhilesh, K.| Sweta, U.| Vijay, K.| Sanjay, G.	2021	0.5	-
39	Rhizobiont in Bioremediation of Hazardous Waste	Rhizobiont in Bioremediation of Hazardous Waste	Kumar, V.| Prasad, R.| Kumar, M.	2021	-	10.1007/978-981-16-0602-1

15.1.2 Life on Land: FWCI

During the 2021–2025 reporting period, SRHU produced 39 publications aligned with SDG 15, of which **31 report FWCI data**, with an average of **2.17**. In 2025, **3 publications reported FWCI data**, with an average of **0.57**.

List of Publications with FWCI

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
1	Environmental restoration of polyaromatic hydrocarbon-contaminated soil through sustainable rhizoremediation: insights into bioeconomy and high-throughput systematic analysis	Das, N.| Kumar, V.| Chaure, K.| Pandey, P.	Environmental Science: Advances	2025	2.55	10.1039/d4va00203b

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
2	Biological removal of iron content from water sources using iron-oxidizing bacteria: a review	Bahuguna, M.| Joshi, N.| Bhandari, G.| Singh, P.| Gupta, S.| Rafatullah, M.| Anggayasti, W.L.| Huda, N.	Environmental Pollutants and Bioavailability	2025	0.6	10.1080/26395940.2025.2556182
3	Iron bioremediation by utilizing biochar-bacterial composites	Bahuguna, M.| Bhandari, G.| Joshi, N.| Singh, P.| Gupta, S.| Gangola, S.| Chaube, S.	BMC microbiology	2025	0.27	10.1186/s12866-025-04564-6
4	Integrative study on Meizotropis pellita (Hook. f. ex Prain): phytochemistry, antibacterial potential, molecular insights, biological applications, and conservation strategies of a critically endangered Himalayan endemic plant	Bisht, A.| Rawat, B.| Rawat, J.M.| Purohit, S.| Kumar, S.	Vegetos	2025	0	10.1007/s42535-025-01508-3
5	Isolation and Characterization of Plant Growth Promoting Endophytes from Linum Usitatissimum	Bhandari, G.| Choudhary, S.| Deogaonkar, A.| Kumar, D.| Miglani, K.| Gupta, S.| Joshi, S.| Mittal, A.| Gangola, S.	Research in Ecology	2025	0	10.30564/re.v7i2.9406
6	Plant–Microbe Abetted Mitigation of Hazardous Pollutants: Toward a Green and Clean Agroecosystem	Sharma, C.| Rajput, V.| Dhillon, N.| Kumar, V.| Rani, U.| Choudhary, A.K.| Naik, B.| Kumar, V.	Microbial Solutions for Sustainable Agriculture	2025	0	10.1201/9781003714484-7
7	Micro-algae: Revolutionizing food production for a healthy and sustainable future	Naik, B.| Mishra, R.| Kumar, V.| Mishra, S.| Gupta, U.| Rustagi, S.| Gupta, A.K.| Preet, M.S.| Bhatt, S.C.| Rizwanuddin, S.	Journal of Agriculture and Food Research	2024	11.35	10.1016/j.jafr.2023.100939
8	Editorial: Potential of the plant rhizomicrobiome for bioremediation of contaminants in agroecosystems	Bhandari, G.| Gangola, S.| Bhatt, P.| Rafatullah, M.	Frontiers in Plant Science	2024	3.89	10.3389/fpls.2024.1397360

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
9	Biofortification as a solution for addressing nutrient deficiencies and malnutrition	Naik, B.| Kumar, V.| Rizwanuddin, S.| Mishra, S.| Kumar, V.| Saris, P.E.J.| Khanduri, N.| Kumar, A.| Pandey, P.| Gupta, A.K.| Khan, J.M.| Rustagi, S.	Heliyon	2024	2.71	10.1016/j.heliyon.2024.e30595
10	Nutraceutical Potential of Staple Food Crops	Joshi, A.| Gupta, A.K.| Jha, A.K.| Naik, B.| Kumar, V.| Rustagi, S.	Herbal Nutraceuticals: Products and Processes	2024	1.86	10.1002/9781394241576.ch16
11	Exploring the potential of novel Bacillus sp. G6: Isolation, characterization, and optimization of biosurfactant production from oil-contaminated soil	Rawat, G.| Kumar, V.| Kumar, A.| Naik, B.| Saris, P.E.J.| Khan, J.M.| Kumar, V.	Journal of Molecular Liquids	2024	1.02	10.1016/j.molliq.2024.124013
12	Investigating chemical pre-treatment methods: Valorization of wheat straw to enhance polyhydroxyalkanoate (PHA) production with novel isolate Bacillus paranthracis RSKS-3	Sachan, R.S.K.| Devgon, I.| Sharma, V.| Perveen, K.| Bukhari, N.A.| Alsulami, J.A.| Jadon, V.S.| Suyal, D.C.| Karnwal, A.	Heliyon	2024	0.9	10.1016/j.heliyon.2024.e31572
13	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	0.56	10.1016/B978-0-443-27376-6.00010-4
14	Impact of Artificial Intelligence (AI) in Bioremediation of Dairy Effluent by Microalgae and the Potential Application of the Produced Lipid Byproducts	Dhillon, N.| Kumar, V.| Bhandari, G.| Gupta, S.	Internet of Medicine for Smart Healthcare	2024	0.39	10.1002/9781394272266.ch11
15	Iimpact of Microorganism-Based Bioremediation on the	Mathur, A.| Koul, A.| Rani, A.| Reddy, M.S.	Bioremediation of Environmental Toxicants:	2024	0	10.1201/9781003310136-18

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
	Fauna and Flora of Different Matrices		Toxicants, Sources, Mechanism, Impact on Human Health, and Bioremediation Approaches			
16	Omics approaches to pesticide biodegradation for sustainable environment	Gangola, S.| Joshi, S.| Bhandari, G.| Bhatt, P.| Kumar, S.| Pandey, S.C.	Advanced Microbial Techniques in Agriculture, Environment, and Health Management	2023	8.99	10.1016/B978-0-323-91643-1.00010-7
17	Remediation of heavy metals by rhizospheric bacteria and their mechanism of detoxification	Gangola, S.| Joshi, S.| Bhandari, G.| Bhatt, P.| Kumar, S.| Bhandari, N.S.| Mittal, A.	Advanced Microbial Technology for Sustainable Agriculture and Environment	2023	7.43	10.1016/B978-0-323-95090-9.00005-4
18	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	5.94	10.1016/B978-0-323-95090-9.00014-5
19	Rhizospheric bacteria: the key to sustainable heavy metal detoxification strategies	Joshi, S.| Gangola, S.| Bhandari, G.| Bhandari, N.S.| Nainwal, D.| Rani, A.| Malik, S.| Slama, P.	Frontiers in Microbiology	2023	3.44	10.3389/fmicb.2023.1229828
20	Esterase and ALDH dehydrogenase-based pesticide degradation by Bacillus brevis 1B from a contaminated environment	Gangola, S.| Bhandari, G.| Joshi, S.| Sharma, A.| Simsek, H.| Bhatt, P.	Environmental Research	2023	3.11	10.1016/j.envres.2023.116332
21	Exploring microbial diversity responses in agricultural fields: a comparative analysis under pesticide stress and non-stress conditions	Gangola, S.| Joshi, S.| Bhandari, G.| Pant, G.| Sharma, A.| Perveen, K.| Bukhari, N.A.| Rani, R.	Frontiers in Microbiology	2023	2.22	10.3389/fmicb.2023.1271129

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
22	Microalgae-based bioremediation of heavy metals and emerging contaminants	Rajput, V.| Kumar, V.| Jaiswal, K.K.| Gupta, S.| Kurbatova, A.I.| Vlaskin, M.S.	Algal Biotechnology	2023	1.92	10.1079/9781800621954.0013
23	Nanotextured Materials for Soil Health	Adeleke, B.S.| Ayilara, M.S.| Sharma, D.| Sultana, R.| Mathur, M.| Bhandari, G.| Chaudhary, A.	Advances in Nanotechnology for Smart Agriculture: Techniques and Applications	2023	1.49	10.1201/9781003345565-15
24	Nanotechnology for bioremediation of industrial wastewater treatment	Kumari, M.| Bora, J.| Dhasmana, A.| Sinha, S.| Malik, S.	Advanced Application of Nanotechnology to Industrial Wastewater	2023	1.13	10.1007/978-981-99-3292-4_7
25	Highly Potent Antioxidant/Antibacterial Biogenic ZnO Nanoparticles-Enabled Nano-Scavenger Reinforced by Aegle Marmelos (Linn) Rind's Extract	Kumar, A.| Rustagi, S.| Malik, S.| Choudhary, P.| Khan, Z.S.| Allam, A.Y.| Naik, B.| Kumar, V.| Chaudhary, V.	ECS Journal of Solid State Science and Technology	2023	0.74	10.1149/2162-8777/ace2e9
26	Energy from Waste: Poterioochromonas malhamensis Used for Managing Dairy Effluent and Producing Valuable Microalgal Lipid	Dhillon, N.| Gupta, S.| Kumar, V.| Bhandari, G.| Arya, S.	Journal of Pure and Applied Microbiology	2023	0.17	10.22207/JPAM.17.2.48
27	Assessment of the genetic fidelity of true-to-type regenerants of medicinal plant Rheum emodi using RAPD and ISSR molecular markers	Sweta, U.| Anjali, U.| Vijay, K.| Sanjay, G.	Research Journal of Biotechnology	2023	0.08	10.25303/1809rjbt1980204
28	Applications of Bioremediation in Treatment of Environmental Pollution	Kumari, P.| Nag, S.| Dhasmana, A.| Bora, J.| Malik, S.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023	0	10.1007/978-981-99-2598-8_17

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
29	Microbial Biosurfactants and Their Implication Toward Wastewater Management	Rawat, G.| Choudhary, R.| Kumar, V.	Handbook of Environmental Chemistry	2023	0	10.1007/698_2022_877
30	Algae in wastewater treatment, mechanism, and application of biomass for production of value-added product	Bhatt, P.| Bhandari, G.| Turco, R.F.| Aminikhoei, Z.| Bhatt, K.| Simsek, H.	Environmental Pollution	2022	7.58	10.1016/j.envpol.2022.119688
31	Biotechnological tools to elucidate the mechanism of pesticide degradation in the environment	Gangola, S.| Bhatt, P.| Kumar, A.J.| Bhandari, G.| Joshi, S.| Punetha, A.| Bhatt, K.| Rene, E.R.	Chemosphere	2022	6.04	10.1016/j.chemosphere.2022.133916
32	Novel mechanism and degradation kinetics of pesticides mixture using Bacillus sp. strain 3C in contaminated sites	Gangola, S.| Sharma, A.| Joshi, S.| Bhandari, G.| Prakash, O.| Govarthanan, M.| Kim, W.| Bhatt, P.	Pesticide Biochemistry and Physiology	2022	5.12	10.1016/j.pestbp.2021.104996
33	Exploring Microbial-Based Green Nanobiotechnology for Wastewater Remediation: A Sustainable Strategy	Malik, S.| Dhasmana, A.| Preetam, S.| Mishra, Y.K.| Chaudhary, V.| Bera, S.P.| Ranjan, A.| Bora, J.| Kaushik, A.| Minkina, T.| Jatav, H.S.| Singh, R.K.| Rajput, V.D.	Nanomaterials	2022	1.28	10.3390/nano12234187
34	Microalgae: A promising tool for pesticide mitigation in wastewater	Rajput, V.| Jaiswal, K.K.| Kumar, V.| Vlaskin, M.S.| Nanda, M.| Kumar, S.| Verma, M.	Pesticides Bioremediation	2022	0.38	10.1007/978-3-030-97000-0_15
35	Occurrence, Distribution, Conservation, Ethanobotanical and Pharmacological aspects of endangered medicinal herb belonging to Genus Rheum	Sweta, U.| Anjali, U.| Vijay, K.| Sanjay, G.	Research Journal of Chemistry and Environment	2022	0.05	10.25303/2607rjce168186
36	Evaluation of genetic diversity and population structure of Angelica glauca of Uttarakhand region using ISSR markers	Tarangini, R.| Sanjay, G.	Research Journal of Biotechnology	2022	0	10.25303/1706rjbt1830188

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
37	Rhizobiont in Bioremediation of Hazardous Waste	Kumar, V.| Prasad, R.| Kumar, M.	Rhizobiont in Bioremediation of Hazardous Waste	2021	1.12	10.1007/978-981-16-0602-1
38	Microbial Fabricated Nanosystems: Applications in Drug Delivery and Targeting	Sachin, K.| Karn, S.K.	Frontiers in Chemistry	2021	0.43	10.3389/fchem.2021.617353
39	Assessment of genetic diversity of rheum species (Endangered Medicinal Herb of Indian Himalayan Region) using molecular markers	Anjali, U.| Akhilesh, K.| Sweta, U.| Vijay, K.| Sanjay, G.	Research Journal of Biotechnology	2021	0	-

15.1.3 Life on Land: Publications

SRHU produced **39 publications** aligned with SDG 15 during 2021–2025, spanning pesticide and heavy-metal bioremediation by rhizospheric bacteria, plant-microbiome and endophyte research, soil and wastewater microbial remediation, conservation genetics of endangered Himalayan medicinal plants, and microalgae-based pollutant removal.

List of Publications during 2021-2025

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
1	Iron bioremediation by utilizing biochar-bacterial composites	Bahuguna, M.; Bhandari, G.; Joshi, N.; Gangola, S.; Chaube, S.	BMC microbiology	2025	10.1186/s12866-025-04564-6
2	Isolation and Characterization of Plant Growth Promoting Endophytes from Linum Usitatissimum	Bhandari, G.; Choudhary, S.; Deogaonkar, A.; Mittal, A.; Gangola, S.	Research in Ecology	2025	10.30564/re.v7i2.9406
3	Environmental restoration of polyaromatic hydrocarbon-contaminated soil through sustainable rhizoremediation: insights into bioeconomy and high-throughput systematic analysis	Das, N.; Vijay, K.; Chaure, K.; Pandey, P.	Environmental Science Advances	2025	10.1039/d4va00203b

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
4	Plant-Microbe Abetted Mitigation of Hazardous Pollutants: Toward a Green and Clean Agroecosystem	Sharma, C.; Rajput, V.; Dhillon, N.; Naik, B.; Kumar, V.	Microbial Solutions for Sustainable Agriculture	2025	10.1201/9781003714484-7
5	Integrative study on Meizotropis pellita (Hook. f. ex Prain): phytochemistry, antibacterial potential, molecular insights, biological applications, and conservation strategies of a critically endangered Himalayan endemic plant	Bisht, A.; Rawat, B.; Rawat, J.M.; Purohit, S.; Kumar, S.	Vegetos	2025	10.1007/s42535-025-01508-3
6	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	10.1080/26395940.2025.2556182
7	Investigating chemical pre-treatment methods: Valorization of wheat straw to enhance polyhydroxyalkanoate (PHA) production with novel isolate Bacillus paranthracis RSKS-3	Sachan, R.S.K.; Devgon, I.; Sharma, V.; Suyal, D.C.; Karnwal, A.	Heliyon	2024	10.1016/j.heliyon.2024.e31572
8	Biofortification as a solution for addressing nutrient deficiencies and malnutrition	Naik, B.; Vijay, K.; Rizwanuddin, S.; Khan, J.M.; Rustagi, S.	Heliyon	2024	10.1016/j.heliyon.2024.e30595
9	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	10.1016/j.jafr.2023.100939
10	Exploring the potential of novel Bacillus sp. G6: Isolation, characterization, and optimization of biosurfactant production from oil-contaminated soil	Rawat, G.; Vijay, K.; Kumar, A.; Khan, J.M.; Kumar, V.	Journal of Molecular Liquids	2024	10.1016/j.molliq.2024.124013
11	Impact of Artificial Intelligence (AI) in Bioremediation of Dairy Effluent by Microalgae and the Potential Application of the Produced Lipid Byproducts	Dhillon, N.; Kumar, V.R.; Bhandari, G.; Gupta, S.	Internet of Medicine for Smart Healthcare	2024	10.1002/9781394272266.ch11

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
12	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	10.1016/B978-0-443-27376-6.00010-4
13	Nutraceutical Potential of Staple Food Crops	Joshi, A.; Gupta, A.K.; Jha, A.K.; Vijay, K.; Rustagi, S.	Herbal Nutraceuticals: Products and Processes	2024	10.1002/9781394241576.ch16
14	Impact of Microorganism-Based Bioremediation on the Fauna and Flora of Different Matrices	Mathur, A.; Koul, A.; Rani, A.; Reddy, M.S.	Bioremediation of Environmental Toxicants: Sources, Mechanism, Impact on Human Health and Bioremediation Approaches	2024	10.1201/9781003310136-18
15	Editorial: Potential of the plant rhizomicrobiome for bioremediation of contaminants in agroecosystems	Bhandari, G.; Gangola, S.; Bhatt, P.; Rafatullah, M.	Frontiers in Plant Science	2024	10.3389/fpls.2024.1397360
16	Microalgae-based bioremediation of heavy metals and emerging contaminants	Rajput, V.; Dhatwalia, V.K.; Jaiswal, K.K.; Kurbatova, A.I.; Vlaskin, M.S.	Algal Biotechnology	2023	10.1079/9781800621954.0013
17	Assessment of the genetic fidelity of true-to-type regenerants of medicinal plant Rheum emodi using RAPD and ISSR molecular markers	Sweta, U.; Anjali, U.; Vijay, K.; Sanjay, G.	Research Journal of Biotechnology	2023	10.25303/1809rjbt1980204
18	Esterase and ALDH dehydrogenase-based pesticide degradation by Bacillus brevis 1B from a contaminated environment	Gangola, S.; Bhandari, G.; Joshi, S.; Simsek, H.; Bhatt, P.	Environmental Research	2023	10.1016/j.envres.2023.116332
19	Highly Potent Antioxidant/Antibacterial Biogenic ZnO Nanoparticles-Enabled Nano-Scavenger Reinforced by Aegle marmelos (Linn) Rind's Extract	Kumar, A.; Rustagi, S.; Malik, S.M.; Vijay, K.; Chaudhary, V.	ECS Journal of Solid State Science and Technology	2023	10.1149/2162-8777/ace2e9

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
20	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	10.1007/978-981-99-3292-4_7
21	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	10.22207/JPAM.17.2.48
22	Applications of Bioremediation in Treatment of Environmental Pollution	Kumari, P.; Nag, S.; Dhasmana, A.; Bora, J.; Malik, S.M.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023	10.1007/978-981-99-2598-8_17
23	Exploring microbial diversity responses in agricultural fields: a comparative analysis under pesticide stress and non-stress conditions	Gangola, S.; Joshi, S.; Bhandari, G.; Bukhari, N.A.W.; Rani, R.	Frontiers in Microbiology	2023	10.3389/fmicb.2023.1271129
24	Rhizospheric bacteria: the key to sustainable heavy metal detoxification strategies	Joshi, S.; Gangola, S.; Bhandari, G.; Malik, S.M.; Sláma, P.	Frontiers in Microbiology	2023	10.3389/fmicb.2023.1229828
25	Nanotextured Materials for Soil Health	Adeleke, B.S.; Ayilara, M.S.; Sharma, D.; Bhandari, G.; Chaudhary, A.	Advances in Nanotechnology for Smart Agriculture Techniques and Applications	2023	10.1201/9781003345565-15
26	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	10.1016/B978-0-323-95090-9.00014-5

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
27	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	10.1016/B978-0-323-95090-9.00005-4
28	Omics approaches to pesticide biodegradation for sustainable environment	Gangola, S.; Joshi, S.; Bhandari, G.; Kumar, S.; Pandey, S.C.	Advanced Microbial Techniques in Agriculture Environment and Health Management	2023	10.1016/B978-0-323-91643-1.00010-7
29	Microbial Biosurfactants and Their Implication Toward Wastewater Management	Rawat, G.; Choudhary, R.; Kumar, V.R.	Handbook of Environmental Chemistry	2023	10.1007/698_2022_877
30	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	10.3390/nano12234187
31	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	10.1016/j.envpol.2022.119688
32	Occurrence, Distribution, Conservation, Ethanobotanical and Pharmacological aspects of endangered medicinal herb belonging to Genus Rheum	Sweta, U.; Anjali, U.; Vijay, K.; Sanjay, G.	Research Journal of Chemistry and Environment	2022	10.25303/2607rjce168186
33	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	10.1007/978-3-030-97000-0_15
34	Evaluation of genetic diversity and population structure of Angelica glauca of Uttarakhand region using ISSR markers	Tarangini, R.; Sanjay, G.	Research Journal of Biotechnology	2022	10.25303/1706rjbt1830188

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
35	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	10.1016/j.chemosphere.2022.133916
36	Novel mechanism and degradation kinetics of pesticides mixture using Bacillus sp. strain 3C in contaminated sites	Gangola, S.; Sharma, A.; Joshi, S.; Kim, W.; Bhatt, P.	Pesticide Biochemistry and Physiology	2022	10.1016/j.pestbp.2021.104996
37	Assessment of genetic diversity of Rheum species (Endangered Medicinal Herb of Indian Himalayan Region) using molecular markers	Anjali, U.; Akhilesh, K.; Sweta, U.; Vijay, K.; Sanjay, G.	Research Journal of Biotechnology	2021	https://www.scopus.com/pages/publications/85119200561?origin=organizationpage
38	Microbial Fabricated Nanosystems: Applications in Drug Delivery and Targeting	Sachin, K.; Karn, S.K.	Frontiers in Chemistry	2021	10.3389/fchem.2021.617353
39	Rhizobiont in Bioremediation of Hazardous Waste	Kumar, V.R.; Prasad, R.; Kumar, M.K.M.	Rhizobiont in Bioremediation of Hazardous Waste	2021	10.1007/978-981-16-0602-1

Curricular Integration and Academic Mapping for SDG 15 Alleviation

Program Name	Course Name	Course Code
Bachelor of Physiotherapy (BPT)	Environmental Science -II	EVS 301
BMLT	Environmental Science - I	EVS 301
BMLT	Environmental Science - II	EVS 302
B.Sc. Medical Technology (Radiotherapy-BRT)	Environmental Science- I	EVS 301
B.Sc. Medical Technology (Radiotherapy-BRT)	Environmental Science - II	EVS 301
Bachelor of Occupational Therapy (BOT)	Environmental Science-I	BOT301
Bachelor of Occupational Therapy (BOT)	Environmental Science-II	EVS301
B.Sc. Nursing	Community Health Nursing I including Environmental Science & Epidemiology - Theory	N- COMH (I) 310

Program Name	Course Name	Course Code
B.Sc. Nursing	Community Health Nursing I including Environmental Science & Epidemiology – Practical	N- COMH (I) 310
Post Basic BSc Nursing	Environmental Science	PBN207
B.Sc. Biotechnology	Environmental Science-I	AECC 111
B.Sc. Biotechnology	Plant Physiology	BBTC 122
B.Sc. Biotechnology	Microbial physiology & metabolism	BMBC 121
B.Sc. Biotechnology	Developmental Biology	BBTC 232
B.Sc. Biotechnology	Environmental Sciences-II	AECC 231
B.Sc. Biotechnology	Genetics	BBTC 111
B.Sc. Biotechnology	Animal Biotechnology & Developmental Biology	BBTC 501
B.Sc. Biotechnology	Environmental Biotechnology	BBTC 503
B.Sc. Microbiology	Environmental Science-I	AECC 111
B.Sc. Microbiology	Microbial physiology & metabolism	BMBC 121
B.Sc. Microbiology	Plant Physiology	BBTC 122
B.Sc. Microbiology	Environmental Sciences-II	AECC 231
M.Sc. Biotechnology	Microbiology	MMBT 101
M.Sc. Biotechnology	Microbiology Practical	MMBP 101
M.Sc. Biotechnology	Plant & Animal Biotechnology	MBTT 302
M.Sc. Biotechnology	Agrobiotechnology	MBTE 305
M.Sc. Biotechnology	Energy & Environment	MBTE 310
M.Sc. Biotechnology	Plant & Animal Biotechnology Practical	MBTP 302
M.Sc. Microbiology	Microbiology	MMBT 101
M.Sc. Microbiology	Microbiology Practical	MMBP 101
M.Sc. Microbiology	Virology and Bacteriology	MMBT 201

Program Name	Course Name	Course Code
M.Sc. Microbiology	Microbial Physiology & Metabolism	MMBT 202
M.Sc. Microbiology	Recombinant DNA Technology	MBTT 202
M.Sc. Microbiology	Industrial Microbiology	MMBT 302
M.Sc. Microbiology	Industrial Waste Management	MMBE 302
M.Sc. Microbiology	Genomics, Proteomics & Metabolomics	MMBE 303
M.Sc. Microbiology	Soil and Agriculture Microbiology	MMBE 304
MSc. Yoga Science and Holistic Health	Environmental Pollution	MYS303
B.Tech (Hons.) CSE with AI & ML	Environmental Studies	HST112
B.Tech (Hons.) CSE with DS & ML	Environmental Studies	HST112
B.Tech CSE – Cyber Security	Environmental Studies	HST112
Bachelor of Computer Applications	Environmental Studies	BCT125
B.Sc. Data Science	Environmental Studies	MD121T

15.2 Supporting Land Ecosystems through Education

SRHU promotes biodiversity conservation and sustainable ecosystem management through interdisciplinary, experiential learning. Students engage in fieldwork, research, and community-based activities, including tree plantation and medicinal plant conservation, to develop competencies that support ecological restoration and climate resilience.

15.2.1 Event about Sustainable Use of Land

SRHU promotes the sustainable use of land through initiatives such as tree plantation drives, guest lectures, Swachhata Pakhwada, and Earth Day celebrations. These activities raise environmental awareness, encourage biodiversity conservation, promote responsible land management, and foster active participation in sustainable development practices among students, faculty, and the university community.

Particulars	Status	Details
Existence of Events	**Yes**	SRHU conducts tree plantation drives, sustainable land-use lectures, Swachchata Pakhwada, Earth Day, World Environment Day, water conservation, waste management, and plantation activities
Evidence provided	**Yes**	Photographs provided below for ● Tree Plantation Drive ● Guest Lecture on Sustainable Land Use ● Swachchata Pakhwada ● Earth Day Celebrations ● World Environment Day - Awareness session on Water conservation & Waste Management - Plantation Drive
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/media-events/

Evidences

Evidence 1:

Activity: Tree Plantation Drive- 'A Tree in the Name of Mother'

Date: 15 August 2024

No. of Beneficiaries: 152

Event Description:

On 15th August 2024, SRHU launched a unique initiative titled 'A Tree in the Name of Mother' to mark the 78th Independence Day. 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.

Photograph of Tree Plantation Drive: 'A Tree in the Name of Mother'



Evidence 2:

Activity: Guest Lecture by Mr. Chandi Prasad Bhatt

Date: 17 September 2024

No. of Beneficiaries: 80

Event Description:

On 17 September 2024, the School of Pharmaceutical Sciences and Rural Development Institute, SRHU, 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 emphasized sustainable land use, reforestation, community participation, and environmental awareness, encouraging students to adopt sustainable practices and contribute to ecosystem conservation.

Photographs of the Guest Lecture



Evidence 3:

Activity: Swachchata Pakhwada

Date: 23 September 2024 to 1 October 2024

Location: Srinagar, Pauri, Uttarakhand

No. of Beneficiaries: 328 students and faculty of SRHU and local communities

Event Description:

As part of the nationwide Swachchata Pakhwada initiative the Swachhata hi seva campaign was conducted from 23 September to 1 October 2024 in the SRHU and nearby villages with the powerful theme of "Swabhav Swachhata Sanskar Swachhata". The campaign was a prelude to the Swachh Bharat Divas celebrated on 2nd

October, marking 10 years of the Swachh Bharat Mission. The objective was to promote awareness and involve students, faculty, and staff in maintaining a clean and hygienic environment.

1. **Pledge on Swachchata (23 Sep 2024):** A Swachchata pledge was taken by all SRHU employees, reaffirming their commitment to cleanliness.
2. **Visit to STP, ETP, Recycled Wastepaper Plant & Plastic Bank (24 Sep 2024):** 150 students from five schools (SBS, SYS, HIMS, HCN and SMS) visited these facilities, accompanied by faculty members.
3. **Nukkad Natak on Swachhta (25 Sep 2024):** Three groups of students performed street plays at different locations in the University.
4. **Poster Presentation (26 Sep 2024):** Students of SRHU participated in poster presentations on the theme "Swachchata Hi Sewa" at their respective colleges.
5. **Pledge and Walkathon (27 Sep 2024):** A walkathon was organized for the students of SRHU, followed by a pledge-taking ceremony.
6. **Plantation Drive (28 Sep 2024):** Students from different academic units of SRHU participated in a plantation drive.
7. **Cleanliness Drive in Nearby Villages (30 Sep 2024):** Students of SRHU and local community members of village Bhogpur participated in a cleanliness drive and pledge-taking ceremony.
8. **Swachhta Workshop and Expert Talk by Mr. Anoop Nautiyal (01 Oct 2024):** SRHU organized a Swachhta Workshop and Expert Talk by Mr. Anoop Nautiyal.

Photographs of the Events of Swachchata Pakhwada







Evidence 4:

Activity: "Green Future"- Earth Day 2025

Date: 22 April 2025

No. of Beneficiaries: 132

Event Description:

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.

Photographs of the Earth Day Celebration



Evidence 5:

Activity: World Environment Day- Awareness Session on Water Conservation & Waste Management

Date: 4 June 2025

Location: Wipro Enterprise Ltd, SIDCUL, Haridwar, Uttarakhand

No. of Beneficiaries: 24 Staff members of Wipro Enterprises Ltd

Event Description:

On World Environment Day, Wipro Enterprises Ltd., Haridwar organized an awareness session on Water Conservation and Waste Management, conducted by SRHU experts. The session covered Integrated Water Resource Management (IWRM), rainwater harvesting, groundwater recharge, wastewater management, pond rejuvenation, and water quality monitoring. The programme was attended by 24 participants, promoting sustainable water resource management and environmental awareness.

Photograph of the World Environment Day Celebration



Evidence 6:

Activity: World Environment Day Celebrations- Plantation Drive

Date: 5 June 2025

Event Description:

SRHU observes World Environment Day on June 5 through tree plantation drives, environmental pledges, and awareness campaigns. On June 5, 2025, activities based on the theme “Ending Plastic Pollution” were organized across academic schools, promoting biodiversity conservation, sustainability, and environmental responsibility.

Photographs of the World Environment Day Celebration



15.2.2 Sustainably Farmed Food on Campus

SRHU supports SDG 15 by integrating sustainable agriculture, biodiversity conservation, and ecological restoration into teaching, research, and community engagement. SRHU has an institutional Policy for Sustainably Farmed Food on Campus promoting sustainable, locally sourced, seasonal, and plant-based food. The policy covers food outlets, catering services, vendors, and campus events, with emphasis on sustainable procurement, food-waste reduction, responsible packaging, and local sourcing.

Particulars	Status	Details
Existence of Policy	**Yes**	Policy for Sustainably Farmed Food on Campus Since 2019
Evidence provided	**Yes**	Screenshot provided below
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/policies-guidelines/policy-for-sustainably-farmed-food-on-campus/
Is policy created or reviewed in period 2022-2026	**Yes**	Policy for Sustainably Farmed Food on Campus reviewed in 2022

Evidence

Screenshot of Policy for Sustainably Farmed Food on Campus





POLICY FOR SUSTAINABLY FARMED FOOD ON CAMPUS

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 Sustainably Farmed Food on Campus" 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

15.2.3 Maintain and Extend Current Ecosystems' Biodiversity

SRHU promotes sustainable agriculture, biodiversity conservation, and ecosystem restoration in alignment with SDG 15 through research, outreach, and community initiatives. The campus maintains a 160,800 m² green belt with over 6,000 trees representing 125 plant species and over 50 species/varieties of medicinal herbs and aromatic plants, supporting 15 bird and 22 butterfly species. These efforts contribute to sustainable land management, habitat conservation, carbon sequestration, and ecological balance.

Particulars	Status	Details
Existence of Direct Work	**Yes**	Comprehensive Community Development Programme
Evidence provided	**Yes**	Photograph provided below
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/sustainability/

Evidence:

Comprehensive Community Development Programme (CCDP)- Fostering Biodiversity-Based Livelihoods

SRHU, in collaboration with the Rural Development Institute's (RDI) Comprehensive Community Development Programme, initiated in 2019 in Toli, Jaiharikhal Block, Pauri Garhwal, integrates biodiversity conservation, sustainable agriculture, land restoration, and rural livelihood development. Through community participation, the programme promotes the restoration of fallow and degraded lands using climate-resilient, high-value crops such as turmeric, ginger, garlic, chilli, rosemary, black cardamom, finger millet, and barnyard millet. In 2025, the programme supported the cultivation of 20.35 quintals of climate-resilient and high-value crops, including turmeric, ginger, garlic, chilli, rosemary, finger millet (Manduwa), and barnyard millet (Jhangora), enhancing soil conservation, crop diversity, and food security. The initiative was further expanded to Malethi, where 4.374 acres (7 bighas) of barren land were reclaimed for cultivating nutrient-rich crops such as onion, cabbage, cauliflower, green chilli, and ginger, improving land utilization and ecosystem productivity. A 150-sapling pilot apple orchard further supports horticultural diversification and climate-resilient farming. The Value Addition Centre, along with processing, packaging, branding, and buy-back arrangements, strengthens market access and sustainable livelihoods.

Photograph of Biodiversity Enhancement through Cultivation of High-Value Crops, Trees, and Aromatic Plants



15.2.4 Educational Programmes on Ecosystem

In 2025, SRHU in collaboration with RDI conducted community-based education and skill-development programmes under CCDP, engaging farmers, rural youth, women, and self-help groups in climate-resilient agriculture, biodiversity conservation, sustainable land and water management, indigenous crops, and sustainable livelihoods. Training programmes have empowered over 5,000 farmers in adopted villages to adopt organic and water-smart agricultural practices, strengthening rural resilience and inclusive livelihoods. In collaboration with the State Water & Sanitation Mission, Government of Uttarakhand, SRHU conducted Change Management training programmes for public health engineers, government officials, and community stakeholders on rural water supply, sanitation, and sustainable water-resource management. Under the Jal Jeevan Mission, the University trained over 7,300 participants across 31 States and Union Territories in springshed management, rainwater harvesting, sanitation, and community water governance. SRHU also supported the construction of 3,100 household toilets, 309 rainwater harvesting tanks, and restoration of 55 hectares of springshed areas.

Particulars	Status	Details
Existence of Programmes	**Yes**	• Comprehensive Community Development Programme • National Jal Jeevan Mission Program
Evidence provided	**Yes**	Photographs provided below
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/sustainability/

Evidences

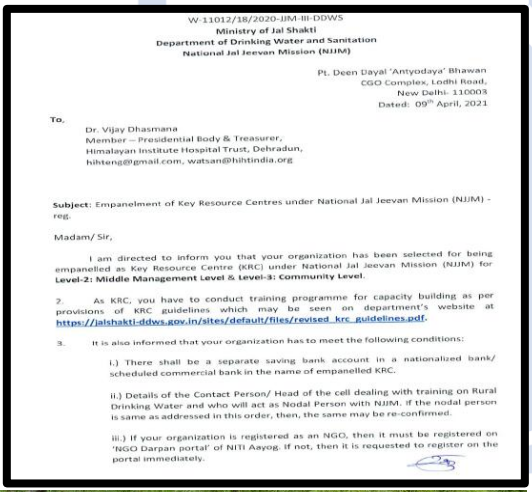
Evidence 1:

Educational Programmes on Ecosystem: Comprehensive Community Development Programme



Evidence 2:

National Jal Jeevan Mission (NJJM) training programme



W-11012/18/2020-JJM-III-DDWS
Ministry of Jal Shakti
Department of Drinking Water and Sanitation
National Jal Jeevan Mission (NJJM)

Pt. Deen Dayal 'Antyodaya' Bhawan
CGO Complex, Lodhi Road,
New Delhi- 110003
Dated: 09th April, 2021

To,

Dr. Vijay Dhasmana
Member – Presidential Body & Treasurer,
Himalayan Institute Hospital Trust, Dehradun,
hihteng@gmail.com, watsan@hihtindia.org

Subject: Empanelment of Key Resource Centres under National Jal Jeevan Mission (NJJM) - reg.

Madam/ Sir,

I am directed to inform you that your organization has been selected for being empanelled as Key Resource Centre (KRC) under National Jal Jeevan Mission (NJJM) for **Level-2: Middle Management Level** & **Level-3: Community Level**.

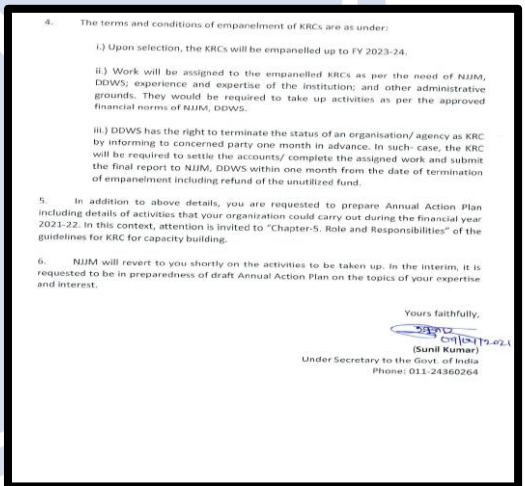
2. As KRC, you have to conduct training programme for capacity building as per provisions of KRC guidelines which may be seen on department's website at https://jalshakti-ddws.gov.in/sites/default/files/revised_krc_guidelines.pdf.

3. It is also informed that your organization has to meet the following conditions:

i.) There shall be a separate saving bank account in a nationalized bank/ scheduled commercial bank in the name of empanelled KRC.

ii.) Details of the Contact Person/ Head of the cell dealing with training on Rural Drinking Water and who will act as Nodal Person with NJJM. If the nodal person is same as addressed in this order, then, the same may be re-confirmed.

iii.) If your organization is registered as an NGO, then it must be registered on 'NGO Darpan portal' of NITI Aayog. If not, then it is requested to register on the portal immediately.



4. The terms and conditions of empanelment of KRCs are as under:

i.) Upon selection, the KRCs will be empanelled up to FY 2023-24.

ii.) Work will be assigned to the empanelled KRCs as per the need of NJJM, DDWS; experience and expertise of the institution; and other administrative grounds. They would be required to take up activities as per the approved financial norms of NJJM, DDWS.

iii.) DDWS has the right to terminate the status of an organisation/ agency as KRC by informing to concerned party one month in advance. In such- case, the KRC will be required to settle the accounts/ complete the assigned work and submit the final report to NJJM, DDWS within one month from the date of termination of empanelment including refund of the unutilized fund.

5. In addition to above details, you are requested to prepare Annual Action Plan including details of activities that your organization could carry out during the financial year 2021-22. In this context, attention is invited to "Chapter-5, Role and Responsibilities" of the guidelines for KRC for capacity building.

6. NJJM will revert to you shortly on the activities to be taken up. In the interim, it is requested to be in preparedness of draft Annual Action Plan on the topics of your expertise and interest.

Yours faithfully,

(Sunil Kumar)
Under Secretary to the Govt. of India
Phone: 011-24360264





15.2.5 Sustainable Management of Land for Agriculture

In 2025, SRHU, through the Rural Development Institute (RDI) and Comprehensive Community Development Programme (CCDP), promoted sustainable agricultural land management by reclaiming 4.374 acres (7 bighas) of barren land in Malethi for cultivation and training over 5,000 farmers in sustainable and organic agriculture. Farmers cultivated climate-resilient and traditional crops, producing 20.35 quintals of diverse produce, including 1,100 kg of turmeric grown by 24 farmers across 14 villages, of which 285 kg was processed at the Value Addition Centre. These initiatives promote land restoration, crop diversification, sustainable farming, food security, and rural livelihood enhancement in the Himalayan region.

Particulars	Status	Details
Existence of Programmes	**Yes**	Comprehensive Community Development Programme Incubation at SRHU
Evidence provided	**Yes**	Photograph provided below Educational Programmes on Ecosystem Eco Bambrin India Pvt Ltd
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/sustainability/

Evidences

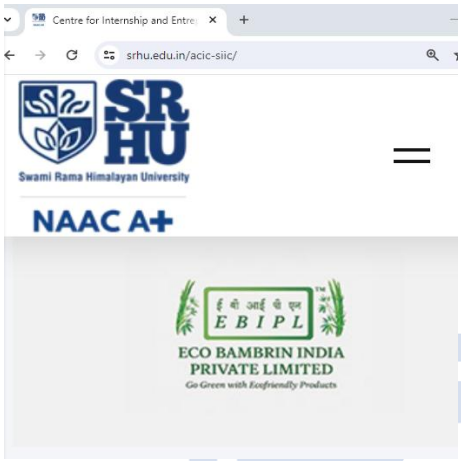
Evidence 1:

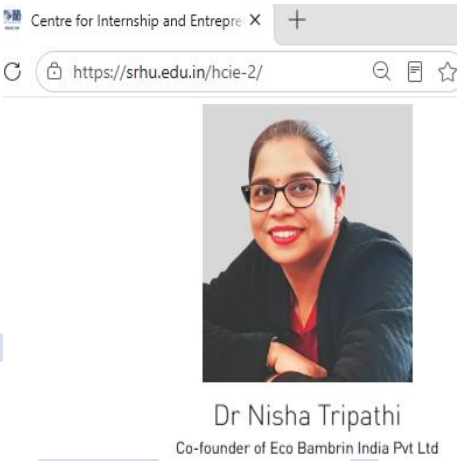
Educational Programmes on Ecosystem: Comprehensive Community Development Programme



Evidence 02

Screenshot of the Startups and their founders: **Eco Bambrin India Pvt Ltd**





15.2.6 Sustainable Management of Land for Tourism

SRHU is planning to start a BBA - Tourism and Wellness programme in the near future. The proposed programme will provide educational exposure to sustainable tourism practices, responsible management of tourism-related land resources, eco-tourism, and conservation of local natural environments. Through this initiative, SRHU aims to contribute to educational outreach and awareness among students and the wider community on the sustainable management of land for tourism.

15.3 Supporting Land Ecosystem through Action

In 2025, SRHU promoted terrestrial ecosystem conservation through land restoration, springshed management, rainwater harvesting, plantation, biodiversity conservation, and climate-resilient agriculture. Key efforts included reclamation of 4.374 acres of barren land, 55 hectares of springshed development, and a 1,60,800 m² green belt supporting 6,000 trees, contributing to SDG 15.

15.3.1 Policy for Sustainable use, conservation and restoration of land

SRHU has implemented a Policy for Sustainable Use, Conservation, and Restoration of Land since 2019 to promote responsible land use and protection of terrestrial ecosystems. The policy was reviewed in 2022 and is publicly available on the SRHU website

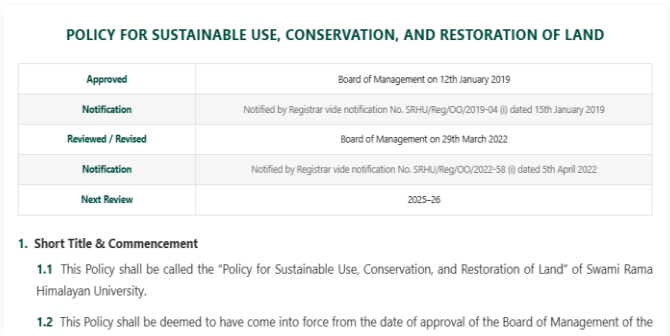
(srhu.edu.in/policies-guidelines/policy-for-sustainable-use-conservation-and-restoration-of-land/).

Particulars	Status	Details
Existence of Policy	**Yes**	Policy for Sustainable use, conservation, and restoration of land since 2019
Evidence provided	**Yes**	Screenshot of policy provided below
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/policies-guidelines/policy-for-sustainable-use-conservation-and-restoration-of-land/
Is policy created or reviewed in period 2022-2026	**Yes**	Policy for Sustainable use, conservation and restoration of land reviewed in 2022

Evidence

Screenshot of Policy for Sustainable use, conservation and restoration of land





POLICY FOR SUSTAINABLE USE, CONSERVATION, AND RESTORATION OF LAND

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 Sustainable Use, Conservation, and Restoration of Land" 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

15.3.2 Monitoring IUCN and other conservation species

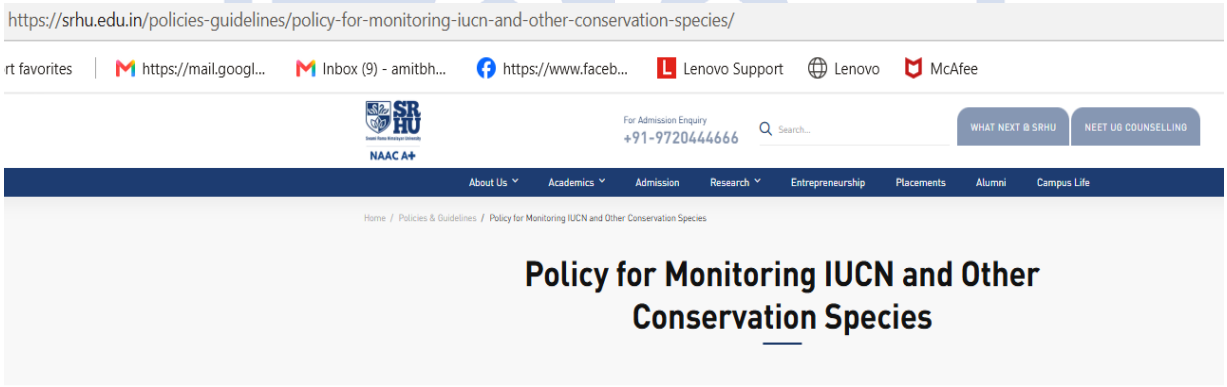
SRHU has implemented a Policy for Monitoring IUCN and Other Conservation Species to protect threatened and protected flora and fauna in alignment with SDG 15. The policy promotes biodiversity monitoring, habitat protection, responsible development, conservation awareness, and compliance with national and international conservation frameworks. The policy was reviewed in 2022 and is publicly available on the SRHU website:

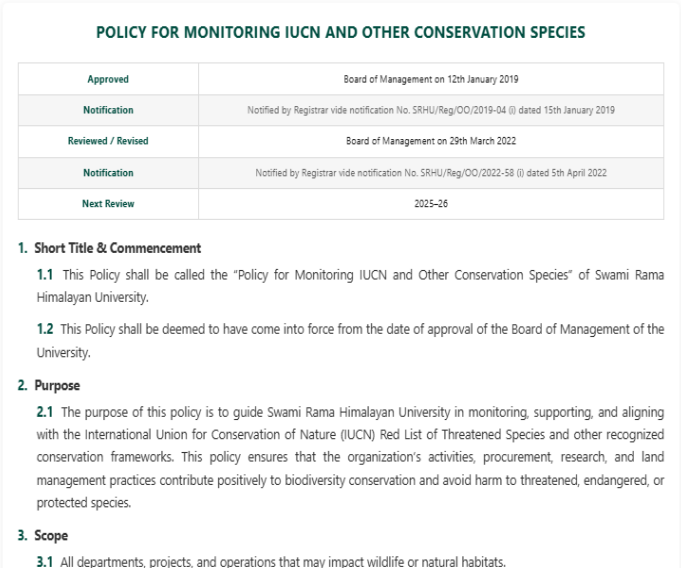
(srhu.edu.in/policies-guidelines/policy-for-monitoring-iucn-and-other-conservation-species/).

Particulars	Status	Details
Existence of Policy	**Yes**	Policy for Monitoring IUCN and other conservation species since 2019
Evidence provided	**Yes**	Screenshot provided below
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/policies-guidelines/policy-for-monitoring-iucn-and-other-conservation-species/
Is policy created or reviewed in period 2022-2026	**Yes**	Policy for Monitoring IUCN and other conservation species reviewed in 2022

Evidence

Screenshot of Policy for Monitoring IUCN and other conservation species





POLICY FOR MONITORING IUCN AND OTHER CONSERVATION SPECIES

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 Monitoring IUCN and Other Conservation Species" 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

2.1 The purpose of this policy is to guide Swami Rama Himalayan University in monitoring, supporting, and aligning with the International Union for Conservation of Nature (IUCN) Red List of Threatened Species and other recognized conservation frameworks. This policy ensures that the organization's activities, procurement, research, and land management practices contribute positively to biodiversity conservation and avoid harm to threatened, endangered, or protected species.

3. Scope

3.1 All departments, projects, and operations that may impact wildlife or natural habitats.

15.3.3 Local biodiversity included in planning and development

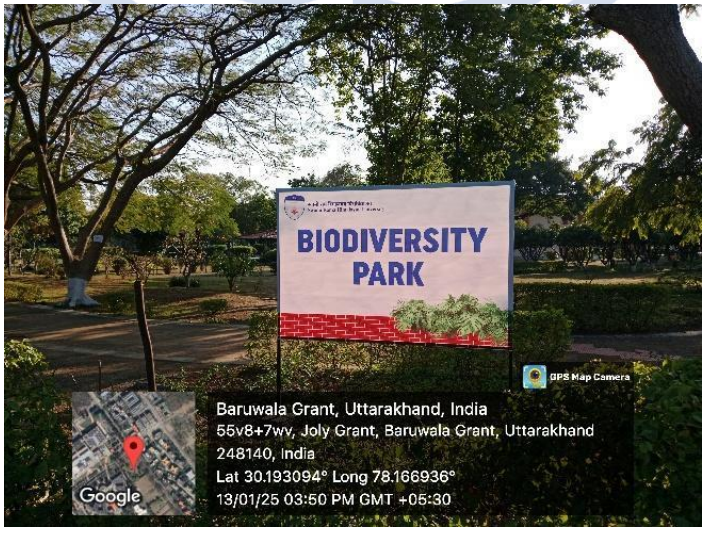
SRHU integrates local biodiversity into campus planning and development by conserving native vegetation, maintaining green zones and natural drainage systems, and protecting biodiversity-rich areas. The Biodiversity Park, Herbal Garden, and Urban Forest further support habitat conservation, ecological connectivity, and sustainable land management, contributing to SDG 15.

Particulars	Status	Details
Existence of Inclusion	**Yes**	• Biodiversity Park • Herbal Garden • Sustainable Urban Forest Area
Evidence provided	**Yes**	Photographs provided below • Biodiversity Park • Herbal Garden • Sustainable Urban Forest Area
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/media-events/environmental-studies-field-visit-to-herbal-garden-organized-by-sst-srhu/

Evidences

Evidence 1:

Photograph of Biodiversity Park



Evidence 2:

Photograph of Herbal Garden







Evidence 3:

Photograph of Sustainable Urban Forest Area



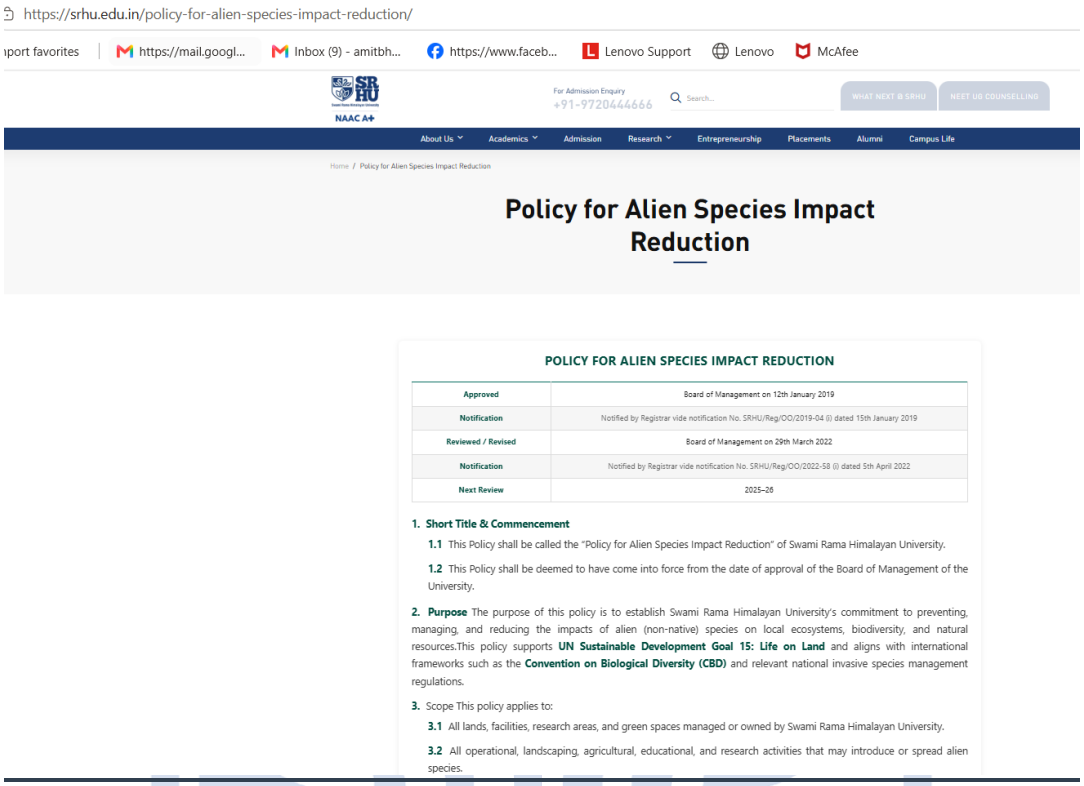
15.3.4 Alien Species Impact Reduction

SRHU has implemented a Policy for Alien Species Impact Reduction to prevent, monitor, and manage invasive alien species and protect native biodiversity in alignment with SDG 15. The policy promotes the use of native species, early detection and control of invasive species, habitat restoration, research, awareness, and responsible landscaping and agricultural practices. The policy was reviewed in 2022 and is publicly available on the SRHU website (srhu.edu.in/policy-for-alien-species-impact-reduction/).

Particulars	Status	Details
Existence of Policy	**Yes**	Policy for Alien Species Impact Reduction since 2019
Evidence provided	**Yes**	Screenshot of policy provided
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/policy-for-alien-species-impact-reduction/
Is policy created or reviewed in period 2022-2026	**Yes**	Policy for Alien Species Impact Reduction reviewed in 2022

Evidence

Screenshot of Policy for Alien Species Impact Reduction



15.3.5 Collaboration for Shared Land Ecosystems

SRHU strengthened its commitment to sustainable land management and biodiversity conservation through collaborative research, innovation, and community engagement initiatives. The University promoted climate-resilient agriculture, ecosystem restoration, biodiversity conservation, sustainable natural resource management, and rural livelihood development. These collaborative efforts enhanced knowledge exchange, capacity building, and community participation, contributing to the restoration and sustainable management of terrestrial ecosystems in the Himalayan region in alignment with **SDG 15 – Life on Land**.

Particulars	Status	Details
Existence of Collaboration	**Yes**	Collaboration with CSIR–Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur
Evidence provided	**Yes**	Screenshot provided below
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/policy-for-alien-species-impact-reduction/

Collaboration with CSIR–Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur

SRHU strengthened its collaboration with CSIR-IHBT, Palampur through an MoU supporting joint research, academic exchange, scientific training, and technology development. The partnership focuses on sustainable

utilization and conservation of Himalayan bioresources, including medicinal plants, microbial resources, biotechnology, and natural products. It contributes to biodiversity conservation, sustainable resource use, climate-resilient agriculture, and research capacity building in alignment with SDG 15.

Evidence

Photograph of Memorandum of Understanding (MoU) with the CSIR–Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur, Himachal Pradesh



15.4 Land Sensitive Waste Disposal

SRHU follows environmentally responsible waste management practices to minimize land and soil contamination and protect terrestrial ecosystems. Measures include waste segregation, composting, biogas generation, scientific disposal of hazardous and e-waste, wastewater treatment and reuse, and resource recovery, supporting sustainable campus operations in alignment with SDG 15.

15.4.1 Water Discharge Guidelines and Standards

SRHU operates a 1 MLD Sewage Treatment Plant (STP) and 90 KLD Effluent Treatment Plant (ETP) for the safe treatment and reuse of domestic, clinical, and laboratory wastewater. The STP uses MBBR with extended aeration and tertiary filtration, with an average treatment of 7 lakh litres/day, while the ETP uses equalization, coagulation, neutralization, aeration, clarification, and tertiary filtration. In 2025, 100% of wastewater was treated and reused. Treated water is used for green-belt irrigation, construction activities, vehicle washing, and other non-potable purposes, while treated sludge is processed as organic manure. Water quality is tested biannually through NABL-accredited laboratories, with results within prescribed norms and compliance with State Pollution Control Board regulations.

Particulars	Status	Details
Existence of Standard and Guidelines	**Yes**	• Sewage Treatment Plant • Effluent Treatment Plant
Evidence provided	**Yes**	Images provided below • Sewage Treatment Plant • Effluent Treatment Plant • Recycled Water Utilisation
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/water-conservation/

Evidences

Evidence 1:

Photographs of Sewage Treatment Plant at SRHU





Evidence 2:

Photographs of Effluent Treatment Plant at SRHU



Evidence 3:

Photographs of Recycled Water Utilisation at SRHU



15.4.2 Policy on Plastic Waste Reduction

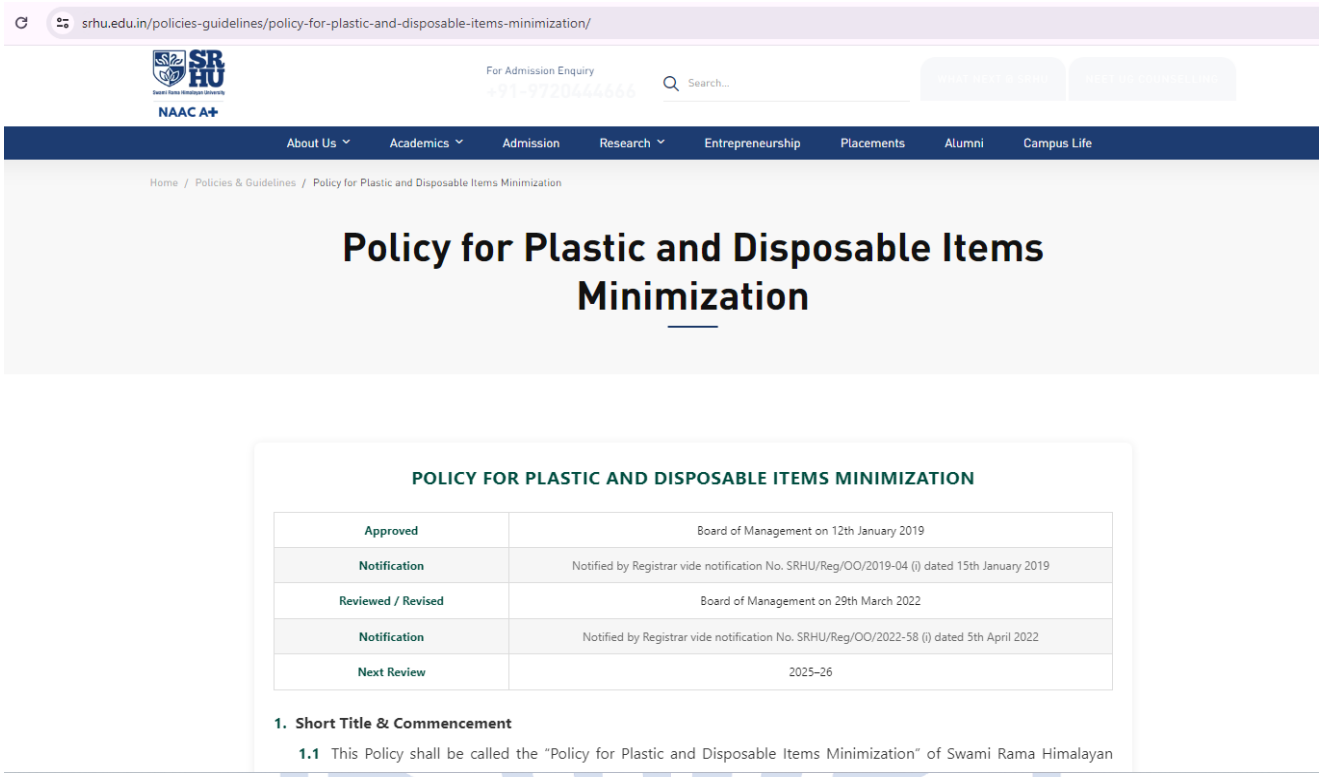
The University has a **well-defined policy on Plastic Waste Reduction,** in place since **2019,** promoting reduction, reuse, and responsible alternatives to single-use plastics. The policy was reviewed in 2022 and supporting evidence is **documented, publicly available on the SRHU website (**srhu.edu.in/policies-guidelines/policy-for-plastic-and-disposable-items-minimization**).**

Particulars	Status	Details
Existence of policy	**Yes**	Policy for Plastic and Disposable Items Minimization since 2019
Evidence provided	**Yes**	Screenshot of • Policy for Plastic and Disposable Items Minimization • Certificate from Social Development for Communities Foundation Society for receiving plastic waste from SRHU for recycling process • Establishment of Plastic Bank for collection and proper disposal of plastic waste

		• Certificate of recognition for establishment of Plastic Bank at SRHU • MoU between SRHU and SDC for sustainability and plastic waste management • Signages for the plastic-free campus in the University
Is the evidence provided public	**Yes**	Available on SRHU website srhu.edu.in/policies-guidelines/policy-for-plastic-and-disposable-items-minimization
Is policy created or reviewed in period 2022-2026	**Yes**	Policy for Plastic and Disposable Items Minimization reviewed in 2022

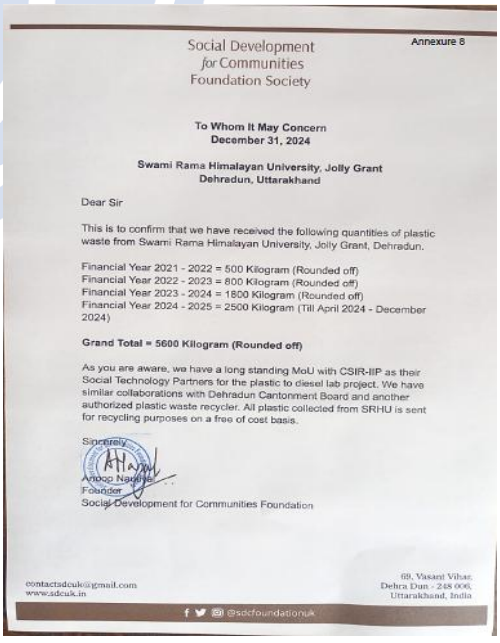
Evidence

Screenshot of Policy for Plastic and Disposable Items Minimization



Evidence 2:
Certificate from Social Development for Communities Foundation Society for receiving plastic waste from SRHU for recycling process

SRHU has undertaken a strong Plastic-Free Campus Initiative. The use of single-use plastics has been restricted, and "Plastic-Free Campus" signage has been installed to raise awareness among students, faculty, and visitors. In addition to behavioral change, innovative projects like the Plastic Waste Bank and plastic-to-diesel recycling initiative demonstrate the University's commitment to responsible plastic disposal and environmental sustainability. 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


Annexure 8

Social Development for Communities Foundation Society

To Whom It May Concern
December 31, 2024

Swami Rama Himalayan University, Jolly Grant
Dehradun, Uttarakhand

Dear Sir

This is to confirm that we have received the following quantities of plastic waste from Swami Rama Himalayan University, Jolly Grant, Dehradun.

Financial Year 2021 - 2022 = 500 Kilogram (Rounded off)
Financial Year 2022 - 2023 = 800 Kilogram (Rounded off)
Financial Year 2023 - 2024 = 1800 Kilogram (Rounded off)
Financial Year 2024 - 2025 = 2500 Kilogram (Till April 2024 - December 2024)

Grand Total = 5600 Kilogram (Rounded off)

As you are aware, we have a long standing MoU with CSIR-IIP as their Social Technology Partners for the plastic to diesel lab project. We have similar collaborations with Dehradun Cantonment Board and another authorized plastic waste recycler. All plastic collected from SRHU is sent for recycling purposes on a free of cost basis.

Sincerely

Anoop Nautiyal
Founder
Social Development for Communities Foundation

contactsdcuk@gmail.com
www.sdcuk.in

68, Vasant Vihar,
Dehra Dun - 248 006,
Uttarakhand, India

@sdcfoundationuk

in plastic waste utilization. For the academic year 2024-25, 2500 kg of plastic waste was handed over to SDC for proper disposal. At SRHU, significant steps have been taken to reduce single-use plastic consumption and promote sustainable practices across the campus.

Amount of plastic waste recycled

Details	Quantity (Kg)
Amount of plastic waste recycled (2022-23)	800
Amount of plastic waste recycled (2023-24)	1800
Amount of plastic waste recycled (2024-25)	2500



Fig. Amount of plastic waste recycled during last three years

Evidence 3:
Establishment of Plastic Bank for collection and proper disposal of plastic waste

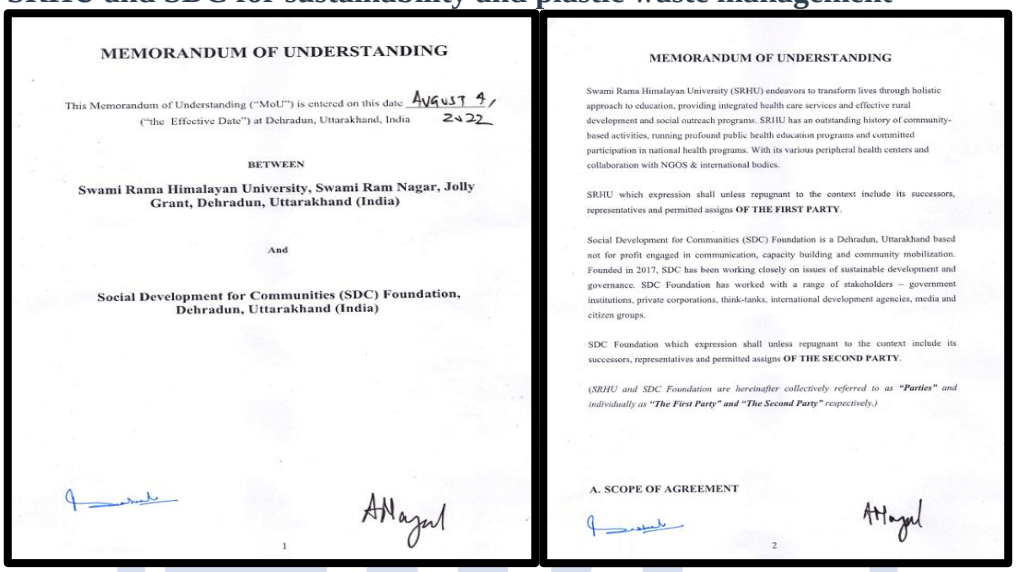


Evidence 4:
Certificate of recognition for establishment of Plastic Bank at SRHU



Evidence 5:

MoU between SRHU and SDC for sustainability and plastic waste management



MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MoU") is entered on this date AUGUST 9, 2022 ("the Effective Date") at Dehradun, Uttarakhand, India

BETWEEN

Swami Rama Himalayan University, Swami Ram Nagar, Jolly Grant, Dehradun, Uttarakhand (India)

And

Social Development for Communities (SDC) Foundation, Dehradun, Uttarakhand (India)

1

MEMORANDUM OF UNDERSTANDING

Swami Rama Himalayan University (SRHU) endeavors to transform lives through holistic approach to education, providing integrated health care services and effective rural development and social outreach programs. SRHU has an outstanding history of community-based activities, running profound public health education programs and committed participation in national health programs. With its various peripheral health centers and collaboration with NGOS & international bodies.

SRHU which expression shall unless repugnant to the context include its successors, representatives and permitted assigns **OF THE FIRST PARTY**.

Social Development for Communities (SDC) Foundation is a Dehradun, Uttarakhand based not for profit engaged in communication, capacity building and community mobilization. Founded in 2017, SDC has been working closely on issues of sustainable development and governance. SDC Foundation has worked with a range of stakeholders – government institutions, private corporations, think-tanks, international development agencies, media and citizen groups.

SDC Foundation which expression shall unless repugnant to the context include its successors, representatives and permitted assigns **OF THE SECOND PARTY**.

*(SRHU and SDC Foundation are hereinafter collectively referred to as **"Parties"** and individually as **"The First Party" and "The Second Party"** respectively.)*

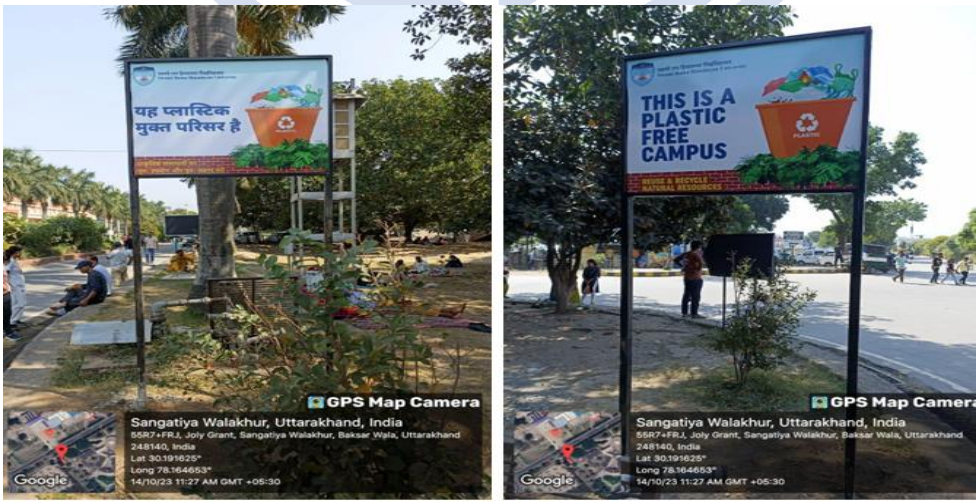
A. SCOPE OF AGREEMENT

2

Innovative Plastic-to-Diesel initiative

Between 2021 and 2025, Swami Rama Himalayan University recycled 5,600 kilograms of plastic waste in partnership with the CSIR–Indian Institute of Petroleum (IIP), Dehradun, its Social Technology Partner for the Plastic-to-Diesel Lab project. Launched in 2022 alongside the Plastic Waste Bank, the initiative established a system for collecting and segregating plastic waste on campus. The collected waste was processed at CSIR–IIP using pyrolysis technology to produce diesel fuel. This initiative highlights SRHU's commitment to sustainable waste management, resource recovery, and innovative waste-to-energy solutions.

Evidence 6:
Signage for the plastic-free campus in the University



Plastic-Free Campus signage at Swami Rama Himalayan University promoting sustainability

15.4.3 Policy on Hazardous Waste Disposal

SRHU has an institutional **Bio-Medical Waste Management Policy** in place since 2019, covering the safe segregation, collection, storage, transportation, treatment, and disposal of biomedical and hazardous waste. The policy includes colour-coded segregation, safe handling of sharps and infectious waste, use of authorised agencies, staff training, record maintenance, monitoring, and regulatory compliance. The policy was **reviewed in 2022 and is publicly available on the SRHU website (**srhu.edu.in/policies-guidelines/Policy for Bio-medical Waste Management**).**

Particulars	Status	Details
Existence of Policy	**Yes**	Policy on Bio-Medical Waste Management (Embedded with Hazardous Waste Disposal) since 2019
Evidence provided	**Yes**	Screenshot provided Policy on Bio-Medical Waste Management (Embedded with Hazardous Waste Disposal) Official confirmation from Nucletron Operations regarding the authorized export, import, return, and disposal of Nucletron radioactive sources Agreement signed between SRHU and Bharat Oil & Waste Management Ltd. Biomedical and hazardous waste management at SRHU
Is the evidence provided public	**Yes**	Available on SRHU Website srhu.edu.in/policies-guidelines/Policy for Bio-medical Waste Management
Is policy created or reviewed in period 2022-2026	**Yes**	Policy on Bio-Medical Waste Management (Embedded with Hazardous Waste Disposal) reviewed in 2022

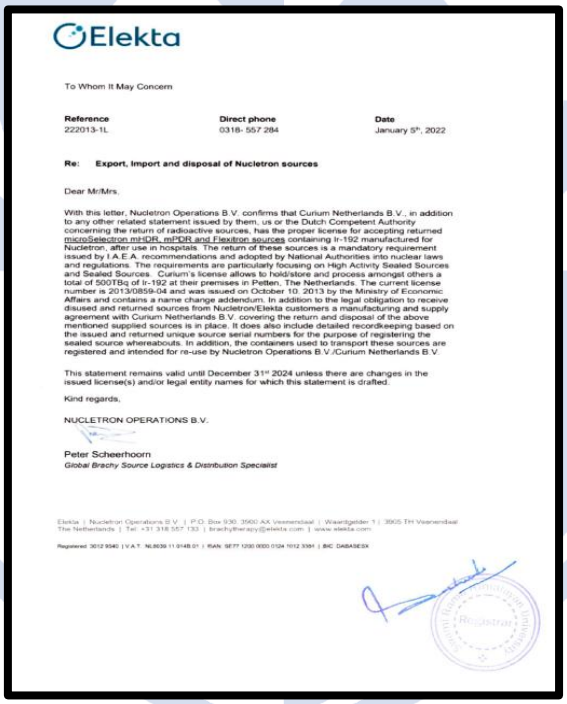
Evidence 1:

Screenshot of Policy on Bio-Medical Waste Management (Embedded with Hazardous Waste Disposal)



Evidence 2:

Official confirmation from Nucletron Operations regarding the authorized export, import, return, and disposal of Nucletron radioactive sources


Elekta

To Whom It May Concern

Reference	Direct phone	Date
222013-1L	0318- 557 284	January 5th, 2022

Re: Export, Import and disposal of Nucletron sources

Dear Mr/Mrs,

With this letter, Nucletron Operations B.V. confirms that Curium Netherlands B.V., in addition to any other related statement issued by them, us or the Dutch Competent Authority concerning the return of radioactive sources, has the proper license for accepting returned microSelectron mHDR, mPDR and Flexitron sources containing Ir-192 manufactured for Nucletron, after use in hospitals. The return of these sources is a mandatory requirement issued by I.A.E.A. recommendations and adopted by National Authorities into nuclear laws and regulations. The requirements are particularly focusing on High Activity Sealed Sources and Sealed Sources. Curium's license allows to hold/store and process amongst others a total of 500TBq of Ir-192 at their premises in Petten, The Netherlands. The current license number is 2013/0859-04 and was issued on October 10, 2013 by the Ministry of Economic Affairs and contains a name change addendum. In addition to the legal obligation to receive disused and returned sources from Nucletron/Elekta customers a manufacturing and supply agreement with Curium Netherlands B.V. covering the return and disposal of the above mentioned supplied sources is in place. It does also include detailed recordkeeping based on the issued and returned unique source serial numbers for the purpose of registering the sealed source whereabouts. In addition, the containers used to transport these sources are registered and intended for re-use by Nucletron Operations B.V./Curium Netherlands B.V.

This statement remains valid until December 31st 2024 unless there are changes in the issued license(s) and/or legal entity names for which this statement is drafted.

Kind regards,

NUCLETRON OPERATIONS B.V.

Peter Scheerhoorn
Global Brachy Source Logistics & Distribution Specialist

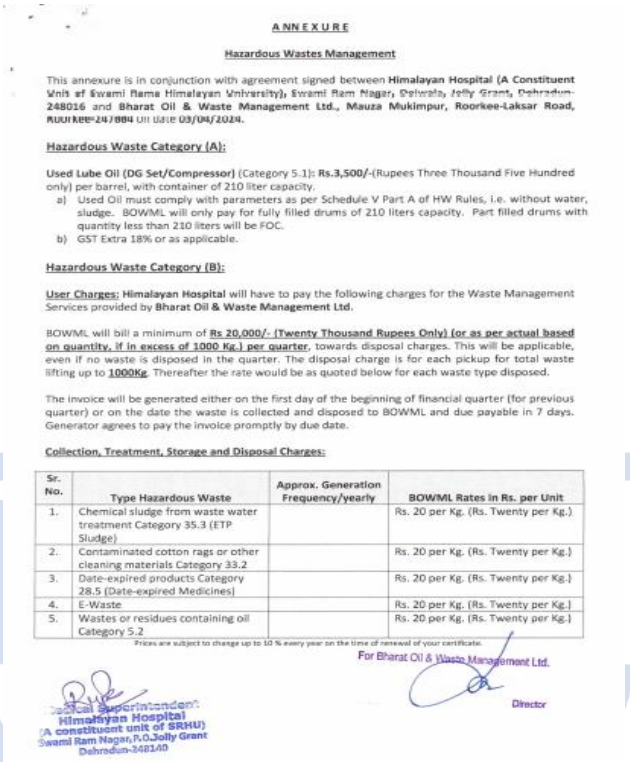
Elekta | Nucletron Operations B.V. | P.O. Box 930, 3900 AX Veenendaal | Waardgelder 1 | 3905 TH Veenendaal The Netherlands | Tel: +31 318 557 733 | brachytherapy@elekta.com | www.elekta.com

Registered: 3012 9540 | V.A.T. NL8039.11.914B.01 | IBAN: SE77 1200 0000 0104 1012 3381 | BIC: DABASESX

Registrar

Evidence 3:

Screenshot of the agreement signed between SRHU and Bharat Oil & Waste Management Ltd.



ANNEXURE

Hazardous Wastes Management

This annexure is in conjunction with agreement signed between **Himalayan Hospital (A Constituent Unit of Swami Rama Himalayan University), Swami Ram Nagar, Dolwala, Jolly Grant, Dehradun-248016** and **Bharat Oil & Waste Management Ltd., Mauza Mukimpur, Roorkee-Laksar Road, Roorkee-247 884** on date **03/04/2024.**

Hazardous Waste Category (A):

Used Lube Oil (DG Set/Compressor) (Category 5.1): **Rs.3,500/-**(Rupees Three Thousand Five Hundred only) per barrel, with container of 210 liter capacity.

a) Used Oil must comply with parameters as per Schedule V Part A of HW Rules, i.e. without water, sludge. BOWML will only pay for fully filled drums of 210 liters capacity. Part filled drums with quantity less than 210 liters will be FOC.
b) GST Extra 18% or as applicable.

Hazardous Waste Category (B):

User Charges: Himalayan Hospital will have to pay the following charges for the Waste Management Services provided by **Bharat Oil & Waste Management Ltd.**

BOWML will bill a minimum of **Rs 20,000/- (Twenty Thousand Rupees Only) (or as per actual based on quantity, if in excess of 1000 Kg.) per quarter**, towards disposal charges. This will be applicable, even if no waste is disposed in the quarter. The disposal charge is for each pickup for total waste lifting up to **1000Kg**. Thereafter the rate would be as quoted below for each waste type disposed.

The invoice will be generated either on the first day of the beginning of financial quarter (for previous quarter) or on the date the waste is collected and disposed to BOWML and due payable in 7 days. Generator agrees to pay the invoice promptly by due date.

Collection, Treatment, Storage and Disposal Charges:

Sr. No.	Type Hazardous Waste	Approx. Generation Frequency/yearly	BOWML Rates in Rs. per Unit
1.	Chemical sludge from waste water treatment Category 35.3 (ETP Sludge)		Rs. 20 per Kg. (Rs. Twenty per Kg.)
2.	Contaminated cotton rags or other cleaning materials Category 33.2		Rs. 20 per Kg. (Rs. Twenty per Kg.)
3.	Date-expired products Category 28.5 (Date-expired Medicines)		Rs. 20 per Kg. (Rs. Twenty per Kg.)
4.	E-Waste		Rs. 20 per Kg. (Rs. Twenty per Kg.)
5.	Wastes or residues containing oil Category 5.2		Rs. 20 per Kg. (Rs. Twenty per Kg.)

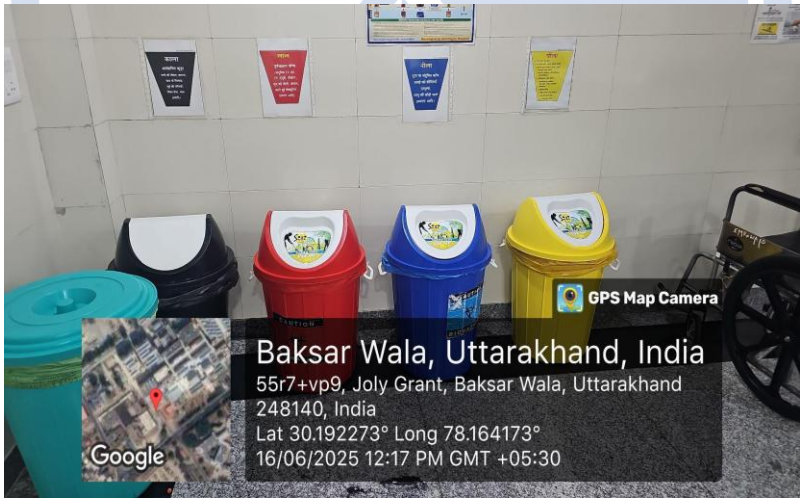
Prices are subject to change up to 10 % every year on the time of renewal of your certificate.

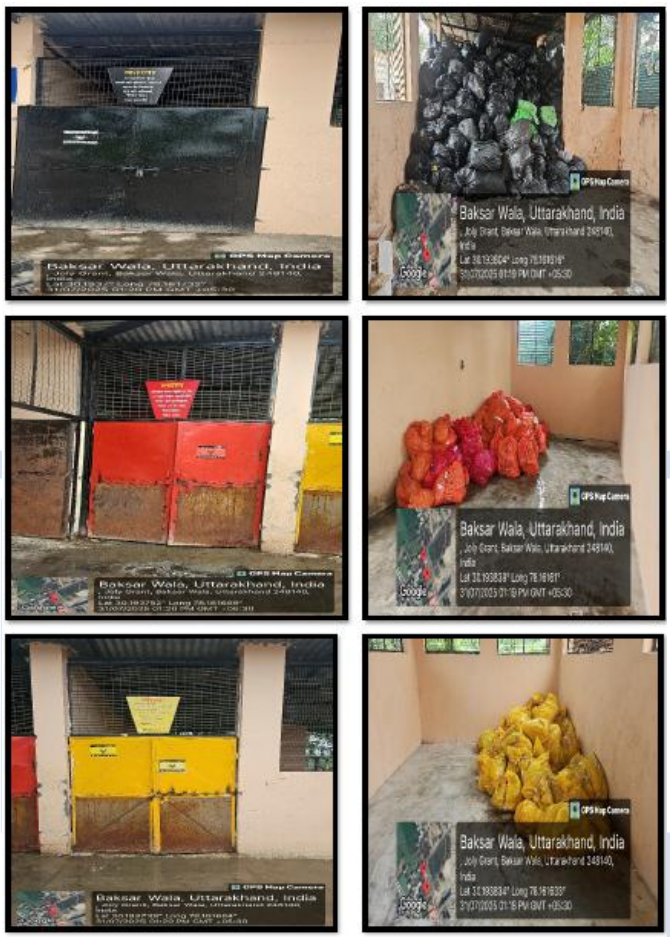
For Bharat Oil & Waste Management Ltd.

Director

Medical Superintendent
Himalayan Hospital
(A constituent unit of SRHU)
Swami Ram Nagar, P.O.Jolly Grant
Dehradun-248140

Evidence 4:
Biomedical and hazardous waste management at SRHU





Color-coded waste segregation bins which enable efficient disposal of waste

Biomedical waste (BMW) at SRHU is managed in strict compliance with regulatory guidelines to ensure safety and environmental responsibility. Segregation begins at the source in every hospital ward, where specific color-coded bins and non-chlorinated bags are placed at designated disposal corners. Plastic disposable waste is collected in red bags, incinerable waste such as contaminated dressings or body-fluid–soaked materials is placed in yellow bags, and sharps, including needles, are immediately discarded into white translucent, puncture-proof containers to prevent injury and contamination. The housekeeping staff collects segregated waste from wards and laboratories and transports it to the central waste collection point. Laboratory waste, such as used vacutainers, is autoclaved on-site before being placed in red bags and handed over for further disposal. All biomedical waste generated across the hospital is ultimately managed through a Common Bio-medical Waste Treatment Facility (CBWTF). From the central collection site, the waste is collected by the Medical Pollution Control Committee (MPCC), authorized by the Uttarakhand Pollution Control Board, for safe handling, transportation, and final treatment.

SDG 15 Champion **Dr Geeta Bhandari** **Assistant Professor**, School Of Biosciences Swami Rama Himalayan University geetabhandari@srhu.edu.in	