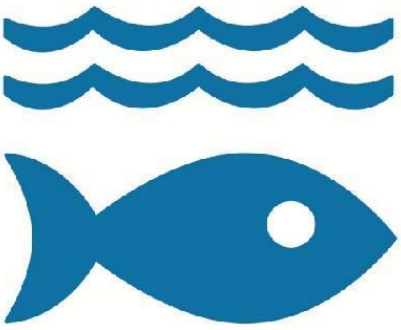
Swami Rama Himalayan University

NAAC A+

Report on

Sustainable Development Goal 14



LIFE BELOW WATER

2025

SDG 14 – Life Below Water

Swami Rama Himalayan University (SRHU), although located in a non-coastal inland region, contributes to SDG 14 through scientific research, freshwater resource sustainability, water ecosystem management and aquatic biodiversity conservation. During 2021–2025, the University produced 7 publications aligned with SDG 14, covering areas such as fisheries management, constructed wetlands, aquaculture, microalgae-based bioremediation, water treatment and reuse, reflecting its research engagement with aquatic environments. Education and community engagement are supported through 33 undergraduate and 25 postgraduate programmes and courses related to freshwater ecosystems, water management and conservation. Community activities have included World Water Day awareness programmes, a climate-resilient water-supply infrastructure prototype, and World Environment Day activities on water conservation and waste management, involving students and local communities. The report also documents research and educational efforts related to water treatment, reuse and wastewater management, supporting the University's broader focus on freshwater ecosystem sustainability.

Highlights	Value
SDG 14 Publications	7
CiteScore	7.15
Average FWCI	1.89
Publications with FWCI > 1	6 of 7
Dedicated Research Laboratories	02
Intramural Projects	02
Grant sanctioned	(i) Rs. 5,75,000 (ii) Rs. 4,00,000
Extramural Projects	01
Grant Sanctioned	Rs. 9,75,000
Faculty Involvement	10

14.1 Research on life below water

Since the inception of Swami Rama Himalayan University's research engagement with SDG 14 (Life Below Water) in 2021, the university has produced a cumulative total of 7 publications aligned with the goal, all of which fall within the most recent five-year period (2021–2025). No publications were recorded for 2025 in this dataset; the most recent contribution, "Fishers 4.0: Revolutionising Contemporary Fisheries Management through Industry 4.0 Integration" (2024), examines the role of Industry 4.0 integration in modernising contemporary fisheries management and provides a relevant connection to SDG 14 through themes of sustainable fisheries, marine resource management, and technology-driven ocean and aquatic ecosystem monitoring.

Research Metric	Value
Total Publications during 2021-2025	7
FWCI	1.89
Citation Count	81
Total Views	169

14.1.1 Life Below Water: CiteScore

During the 2021–2025 reporting period, Swami Rama Himalayan University produced 7 publications aligned with SDG 14 (Life Below Water), of which **2 publications report CiteScore**, with an average of 7.15.

S.No	Paper Title	Authors	Journal / Book Name	Year	Cite Score	DOI
1	Microbiological dimensions and functions in constructed wetlands: A review	Rani, A.| Chauhan, M.| Kumar Sharma, P.| Kumari, M.| Mitra, D.| Joshi, S.	Current Research in Microbial Sciences	2024	10	10.1016/j.crmicr.2024.100311
2	An overview of renewable energy sources: technologies, applications and role of artificial intelligence	Singh, V.| Prasad, M.| Aswal, R.S.| Shrivastava, U.| Sharma, T.| Patel, N.K.	Computer Vision and Machine Intelligence for Renewable Energy Systems	2024	-	10.1016/B978-0-443-28947-7.00001-X
3	Fishers 4.0: Revolutionizing Contemporary Fisheries Management	Joshi, P.| Bhatt, A.| Aggarwal, G.	Proceedings - 2024 International Conference on Healthcare Innovations,	2024	-	10.1109/HISET61796.2024.00054

S.No	Paper Title	Authors	Journal / Book Name	Year	Cite Score	DOI
	through Industry 4.0 Integration		Software and Engineering Technologies, HISET 2024			
4	Probiotics in Aquaculture	Chandra, S.| Joshi, N.	Handbook of Aquatic Microbiology	2024	-	10.1201/9781003408543-7
5	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	-	10.1079/9781800621954.0013
6	Nanofiltration Applications for Potable Water, Treatment, and Reuse	Patel, N.| Dhasmana, A.| Kumari, S.| Sharma, R.| Nayanam, S.| Malik, S.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023	-	10.1007/978-981-99-2598-8_7
7	Exploring the diversity of endophytic fungi and screening for their pullulanase-producing capabilities	Naik, B.| Goyal, S.K.| Tripathi, A.D.| Kumar, V.	Journal of Genetic Engineering and Biotechnology	2021	4.3	10.1186/s43141-021-00208-0

14.1.2 Life Below Water: FWCI

During the 2021–2025 reporting period, Swami Rama Himalayan University produced 7 publications aligned with SDG 14, of which **7 report FWCI data**, with an average of **1.88**.

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
1	Microbiological dimensions and functions in constructed wetlands: A review	Rani, A.| Chauhan, M.| Kumar Sharma, P.| Kumari, M.| Mitra, D.| Joshi, S.	Current Research in Microbial Sciences	2024	2.77	10.1016/j.crmicr.2024.100311
2	Probiotics in Aquaculture	Chandra, S.| Joshi, N.	Handbook of Aquatic Microbiology	2024	2.01	10.1201/9781003408543-7

S.No	Paper Title	Authors	Journal / Book Name	Year	FWCI	DOI
3	Fishers 4.0: Revolutionizing Contemporary Fisheries Management through Industry 4.0 Integration	Joshi, P.| Bhatt, A.| Aggarwal, G.	Proceedings - 2024 International Conference on Healthcare Innovations, Software and Engineering Technologies, HISET 2024	2024	1.9	10.1109/HISET61796.2024.00054
4	An overview of renewable energy sources: technologies, applications and role of artificial intelligence	Singh, V.| Prasad, M.| Aswal, R.S.| Shrivastava, U.| Sharma, T.| Patel, N.K.	Computer Vision and Machine Intelligence for Renewable Energy Systems	2024	1.75	10.1016/B978-0-443-28947-7.00001-X
5	Nanofiltration Applications for Potable Water, Treatment, and Reuse	Patel, N.| Dhasmana, A.| Kumari, S.| Sharma, R.| Nayanam, S.| Malik, S.	Advanced and Innovative Approaches of Environmental Biotechnology in Industrial Wastewater Treatment	2023	2.07	10.1007/978-981-99-2598-8_7
6	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
7	Exploring the diversity of endophytic fungi and screening for their pullulanase-producing capabilities	Naik, B.| Goyal, S.K.| Tripathi, A.D.| Kumar, V.	Journal of Genetic Engineering and Biotechnology	2021	0.73	10.1186/s43141-021-00208-0

14.1.3 Life Below Water: Publications

Swami Rama Himalayan University produced **7 publications** aligned with SDG 14 during 2021–2025, spanning fisheries management and Industry 4.0 integration, renewable energy and AI, constructed-wetland microbiology, aquaculture probiotics, microalgae-based heavy-metal bioremediation, nanofiltration for water treatment and reuse, and endophytic fungi with industrial enzyme applications.

Impact: the steady output across this window reflects a modest but consistent institutional research base in life below water, positioning SRHU to contribute meaningfully to SDG 14's targets on sustainable fisheries, marine and freshwater pollution reduction, and aquatic ecosystem conservation.

S.No	Paper Title	Authors	Journal / Book Name	Year	DOI
1	An overview of renewable energy sources: technologies, applications and role of artificial intelligence	Singh, V.| Prasad, M.| Aswal, R.S.| Shrivastava, U.| Sharma, T.| Patel, N.K.	Computer Vision and Machine Intelligence for Renewable Energy Systems	2024	10.1016/B978-0-443-28947-7.00001-X
2	Fishers 4.0: Revolutionizing Contemporary Fisheries Management through Industry 4.0 Integration	Joshi, P.| Bhatt, A.| Aggarwal, G.	Proceedings - 2024 International Conference on Healthcare Innovations, Software and Engineering Technologies, HISET 2024	2024	10.1109/HISET61796.2024.00054
3	Microbiological dimensions and functions in constructed wetlands: A review	Rani, A.| Chauhan, M.| Kumar Sharma, P.| Kumari, M.| Mitra, D.| Joshi, S.	Current Research in Microbial Sciences	2024	10.1016/j.crmicr.2024.100311
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7	Exploring the diversity of endophytic fungi and screening for their pullulanase-producing capabilities	Naik, B.| Goyal, S.K.| Tripathi, A.D.| Kumar, V.	Journal of Genetic Engineering and Biotechnology	2021	10.1186/s43141-021-00208-0

14.2 Supporting aquatic ecosystem through education

Swami Rama Himalayan University supports the aquatic ecosystem by offering 33 Undergraduate and 25 postgraduate programmes and courses that align with Sustainable Development Goal 14.2: Supporting aquatic ecosystems through education.

14.2.1 Freshwater ecosystems (Community outreach)

Swami Rama Himalayan University offers the following educational programmes on freshwater ecosystems (water irrigation practice, water management/conservation) for local or national communities.

Particulars	Status	Details
Existence of programmes	Yes	Existence of freshwater ecosystems: 33 UG and 25 PG programmes Community outreach 1. World Water Day, 2. Affordable climate-resilient water supply infrastructure prototype for Indian Himalayan Region 3. World Environment Day
Evidence provided	Yes	Table inserted Pictures and report - Community outreach
Is the evidence provided public	Yes	srhu.edu.in https://srhu.edu.in/uncategorized/world-environment-day-celebrations/

Evidences
Evidence 1
Educational Programmes on freshwater ecosystem

S.No.	Program name	Course Name	Course Code
1	M.Sc. Epidemiology	Introduction to Environmental, Occupational, Nutritional and Genetic Epidemiology	CMEP502
2	M.Sc. Epidemiology	Environmental and Occupational Epidemiology	CMEC001
3	Bachelor of Physiotherapy (BPT)	Introduction to quality and patient safety(including emergency care, BLS and biomedical waste)	BPT 306
4	Bachelor of Physiotherapy (BPT)	Environmental science -1	EVS 301
5	Bachelor of Physiotherapy (BPT)	Environmental Science- II	EVS 301
6	BMLT	Environmental Science - I	EVS 301

7	BMLT	Environmental Science - II	EVS302
8	Bachelor of Occupational Therapy (BOT)	Environmental Sciences-I	BOT301
9	Bachelor of Occupational Therapy (BOT)	Environmental Science II	EVS301
10	Master of Physiotherapy (MPT)	Biomechanics & Clinical Kinesiology	MPT202
11	Master of Physiotherapy (MPT)	Physiotherapeutics II	MPT205
12	Master of Physiotherapy (MPT)	Research Dissertation II	MRD201
13	Master of Physiotherapy (MPT)	Musculoskeletal Disorders: Advanced Physiotherapeutics I	MPT1 304
14	Master of Physiotherapy (MPT)	Neurological Disorders: Advanced Physiotherapeutics I	MPT2 304
15	Master of Physiotherapy (MPT)	Musculoskeletal Disorders: Recent Advances II	MPT1 403
16	B.Sc. Biotechnology	Environmental Sciences-II	AECC 231
17	B.Sc. Biotechnology	Environmental Biotechnology	BBTC 503
18	B.Sc. Microbiology	Environmental Sciences-II	AECC 231
19	M.Sc. Biotechnology, Sem-III	Energy & Environment	MBTE 310
20	M.Sc. Microbiology	Industrial Waste Management	MMBE 302
21	MSc. Yoga Science and Holistic Health	Environmental Pollution and	MYS303
22	B.Tech. (Hons.) CSE with AI & ML	Environmental Studies	HST112
23	B.Tech. (Hons.) CSE with DS & ML	Environmental Studies	HST112
24	B.Tech. CSE – Cyber Security	Environmental Studies	HST112
25	Bachelor of Computer Applications (BCA)	Environmental Studies	BCT125
26	B.Sc. Data Science	Environmental Studies	MD121T
27	BBA	Financial Accounting	BBA 103
28	BBA	Micro Economics	BBA 105
29	BBA	Soft Skills-I	BBA 106
30	BBA	Business Communication n	BBA 203
31	BBA	Macro Economics	BBA 205
32	BBA	Management Information System	BBA 403
33	BBA	Management Information System	BBA 503
34	BBA	Project Management and Entrepreneurship IP	BBA 603
35	B.Com	Financial Management	BCM 204
36	B.Com	Macro Economics	BCM 205
37	B.Com	Computer Applications	BCM 306
38	B.Com	Human Resource Management	BCM 405
39	B.Com	Soft Skills – II	BCM 406
40	B.Com	Summer Internship Project*	BCM 505
41	B.Com	Soft Skills II	BCM 506
42	MBA	Management Theory & Organisational Behaviour	MBA 101
43	MBA	Financial Accounting & Reporting	MBA 103
44	MBA	Economics For Business Decisions	MBA 104
45	MBA	Computer Applications for Managers	MBA 105
46	MBA	Management Science	MBA 108
47	MBA	Design thinking	MBA 109
48	MBA	Operations Management	MBA 207
49	MBA	Strategic Management	MBA301
50	MBA	Business Ethics & Values	MBA302

Evidence 2

Activities undertaken by the academic units involving the students and local community on freshwater ecosystem management

S.No	Activity	Outcome	No. of Beneficiary
1	World Water Day	Awareness among community	529 participants
2	Affordable climate-resilient water supply infrastructure prototype for Indian Himalayan Region	Low-cost climate resilient tapping prototype	Pauri, Chamoli, Uttarkashi, Rudraprayag and Tehri district of Uttarakhand
3	World Environment Day	Awareness session on water conservation and waste management	24 staff members

Details of the activities

1. World Water Day

Name of Program: World Water Day

Date: 22-23 March 2025

Location: Himalayan School of Yoga Sciences (HSYS), Himalayan School of Bio Sciences (HSBS), Himalayan School of Science & Technology (HSST), Himalayan School of Management Studies (HSMS), Himalayan College of Nursing (HCN), Kokalyal and Tachela Villages, Tehri Garhwal, and village & Primary School Thano.

No. of Beneficiaries: 529

S.N.	Location	No. of Beneficiaries
1	Himalayan School of Yoga Sciences (HSYS)	74
2	Himalayan School of Bio Sciences (HSBS)	73
3	Himalayan School of Science & Technology (HSST)	86
4	Himalayan School of Management Studies (HSMS)	94
5	Himalayan College of Nursing (HCN)	46
6	Kokalyal Villages Tehri Garhwal	43
7	Tachela Villages Tehri Garhwal	38
8	Gudiyawala village	35
9	Inter Collage Thano	40

Supporting by: WATSAN- Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 12

Activity details:

1. Lecture on Water Conservation and Water Oath for SRHU Students

WATSAN-SRHU organized a lecture on water conservation and administered a Water Oath to its students. The event aimed to raise awareness about the importance of water conservation and promote sustainable water management practices among the students.

During the lecture, experts highlighted the significance of water conservation, its impact on the environment, and simple yet effective ways to save water. The students actively participated in the discussion, gaining valuable insights into water conservation.

Following the lecture, the students took a Water Oath, pledging to adopt water-saving practices and promote sustainability in their daily lives.

2. RDI exhibition area and rainwater harvesting site visit

As part of the World Water Day celebrations, students from SRHU visited the RDI exhibition area and rainwater harvesting site. The visit aimed to educate students about water conservation and sustainable water management practices.

The RDI exhibition area showcased various water conservation techniques, Innovation and technologies, while the rainwater harvesting site demonstrated a practical approach to collecting and utilizing rainwater. The visit inspired students to adopt water-saving practices and promote sustainability in their communities.

3. World Water Day 2025 celebration in Kokalyal and Tachela Villages, Tehri Garhwal

The WATSAN team held awareness sessions in Tehri Garhwal to underscore the significance of traditional springs, addressing threats like deforestation and climate change, and promoting conservation through afforestation and watershed management. A community dialogue identified water scarcity, pollution from runoff and waste, and inadequate storage as key issues. Proposed solutions included rainwater harvesting, water-saving devices, greywater management with soak pits, and community-driven spring rejuvenation through tree planting and trenches. Villagers, including leaders and schoolchildren, took a pledge to use water wisely, protect water bodies, support conservation, and promote sustainable water use education.







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Dy. Director
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Swami Rama Himalayan University

2. Affordable climate-resilient water supply infrastructure prototype for Indian Himalayan Region

Name of Program: Affordable Climate-resilient Water Supply Infrastructure Prototype for Indian Himalayan Region (3 years)

Date: 29 March 2025

Location: 5 Districts (Pauri, Rudraprayag, Chamoli, Tehri & Uttarkashi) of Uttarakhand

Supporting by: National Mission on Himalayan Studies (NMHS), Ministry of Environment Forest & Climate Change (MoEFCC), Government of India with Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 6

Activity detail:
Aim: The aim of this project is to develop Low-cost, Climate-resilient, prefabricated source tapping prototype and water supply infrastructure for Indian Himalayan Region. to ensure a continuous supply of clean water.

Objective(s):

- To Design and develop Low-cost, Climate-resilient, prefabricated source tapping & Filtration system tailored to the unique challenges of Tehri, Pauri, Rudraprayag, Chamoli and Uttarkashi.
- Action Research to assess the feasibility, scalability, functionality and economic viability of the system, Awareness raising, building sense of ownership, capacity building and advocacy
- Access to potable and regular drinking water for indigenous mountain communities to improve access to clean drinking water for indigenous communities in these disaster-prone areas.

Goals:

To make a affordable and resilient water supply infrastructure which will be managed by community and enhance the capacity of the community in the collaboration of government department.

Project Area

5 Districts – Chamoli, Rudraprayag, Pauri, Tehri and Uttarkashi of Uttarakhand State has been selected for the project. Selected areas are regularly affected by flash floods, landslides, wildfires, glacier lake outbursts, cloudburst incidences, and earthquakes. The combination of unfavorable geology, steep sloping areas, and cloudburst incidences makes the occurrence of landslides very likely, with 51 percent of the state's area having high or very high landslide susceptibility. Frequent disasters, such as the 2013 floods and landslides with 4,000 fatalities, the 2016 forest fire affecting more than 4,500 hectares of forest, the 2021 rock and ice avalanche, and the slow subsidence unfolding in Joshimath - Chamoli, are disrupting development. This is having multi-dimensional effects on the state's development including water crisis during and after such incidences. 2,753 water schemes were damaged during 2013 flash floods and landslides. Selected area's landmass falls under Seismic Zone IV or V, the highest seismic risk zones of the country, and has witnessed 11 major earthquakes over the last century. According to ISRO's 'Landslide Atlas,' Rudraprayag and Tehri districts have the highest exposure to landslide risks in India. Chamoli ranked 19th nationally, Pauri ranked 23rd and Uttarkashi 21st in terms of landslide risk. In Uttarakhand major fires have been noted in 1911, 1921,1930, 1945, 1953, 1957, 1958, 1966, 1968, 1970, 1972, 1995, 1999, 2012,

2016, 2021, 2022. Tehri Garhwal and Pauri Garhwal are the most fire-sensitive districts in Uttarakkahnd. Our organization has implemented 342 water supply schemes of different technologies - gravity & pumping form spring & stream and it has been observed that water supply structures particularly source tapping & filtration unit nearby water sources along with supply main pipe lines are most vulnerable to disasters (heavy rainfall, landslide, cloud burst, flash flood), while forest fires, earthquake, decrease in pre-monsson precipitation & winter precipitation / snowfall affecting lean period discharge of water sources.

This demand driven action research proposal outlines a multifaceted project aimed at addressing pressing water supply schemes's sustainability in the Himalayan regions. The primary objective is to develop an innovative and sustainable Affordable Climate-resilient water supply infrastructure prototype for Indian Himalayan Region. This endeavour is driven by the critical and growing issue of water scarcity in hilly areas, exacerbated by climate change impacts and unreliable traditional water sources. The project's methodology is structured into eight phases, each serving a distinct purpose.

Activities to Achieve Project Goals

To accomplish the project's overarching goals of establishing disaster-resilient water supply systems in Tehri, Pauri, Uttrakashi, Chamoli and Rudraprayag following methodology will be adopted

Methodology showing the process-flow of the assessment, designing, fabrication and operation of the prototype model of the proposed devise will be adopted:-

Step 1: Situational Assessment: Selected area face several challenges, including vulnerability to flash floods, landslides, and earthquakes, which severely disrupt water supply systems, exacerbate water scarcity during and after disasters, and endanger human lives. Natural groundwater springs & Rivulets suffer from deteriorating water quality during monsoons and dry periods, leading to waterborne diseases. These challenges underscore the pressing need for a disaster-resilient water supply system.

Step 2: Review of Existing Technologies: A comprehensive review of existing disaster-resilient water supply technologies will be conducted. This includes studying both domestic and international solutions to gather insights and best practices.

Step 3: Stakeholder Consultations: Engaging with stakeholders, including local communities, government authorities, and relevant organizations, is crucial. Initial consultations will be held to understand the specific needs and challenges in the study areas.

Step 4: Development of Precise Designs:

Detailed designs and technical specifications for Affordable Climate- resilient water supply infrastructure equipped with filtration system will be developed. These designs will focus on optimizing water inflow, preventing the entry of sediments and debris, and ensuring efficient water treatment and ensure regular water supply.

Step 5: Prototype Development: A pilot-scale prototype of the disaster-resilient water supply system will be developed. This prototype will serve as a model for the actual system and will undergo lab simulations and field scale testing.

Step 6: Field Pilot Testing: The prototype will be installed in selected disaster-prone areas. Field pilot testing will be conducted under various scenarios and seasons, to assess the system's performance under adverse conditions.

Step 7: Monitoring and Data Collection: Data will be collected continuously to evaluate how effectively the system functions and treats water. Particular attention will be improvements in water quality.

Step 8: Comprehensive System Analysis: A thorough analysis of the disaster-resilient water supply system's performance will be conducted. This analysis will cover technical feasibility, economic viability, and scalability potential.

Step 9: Capacity Building & Training Programs: Training sessions on new technology for engineers and community (Gram Panchayat, Women, Village water sanitation committees and Van Panchayat will be organized.

Step 10: Sustainability Planning: A sustainability plan will be developed to ensure the continued functionality of the implemented systems. This plan will outline strategies for Operation & Maintenance.









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3. World Environment Day

Name of Program: World Environment Day- One day Awareness session on Water conservation & waste Management

Date: 04 June 2025

Location: Wipro Enterprise Ltd, 99-103, Integrated Industrial Estate, Sector 6, sidcul, Haridwar, Uttarakhand 247667

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

Supporting by: Wipro Enterprise Ltd. sidcul, Haridwar with Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 03

Activity detail:

On the occasion of World Environment Day, Wipro Enterprises Ltd., Haridwar organized an awareness session on Water Conservation and Waste Management for its staff and officers. The session was conducted by Er. Atul Uniyal, Scientist at SRHU, who delivered a presentation on sustainable solutions through Integrated Water Resource Management (IWRM), emphasizing the balanced development and management of water and related resources without compromising their sustainability. Key topics such as water conservation, groundwater recharge, rainwater harvesting, wastewater management, and pond rejuvenation were discussed. Additionally, Mr. Lakhpat Singh Bisht, Coordinator at HIHT, demonstrated water quality monitoring techniques using a Field Test Kit. The session was attended by 24 participants including Mr. Arvind Chauhan, Human Resource Manager, Wipro Enterprises Ltd., and Dr. Vivek from HIHT-SRHU. The Wipro team appreciated the informative and engaging session, which concluded with a formal vote of thanks delivered by Mr. Arvind Chauhan.







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14.2.2 Sustainable fisheries (community outreach)

Currently, Swami Rama Himalayan University doesn't have any programme on Sustainable fisheries (community outreach).

14.2.3 Overfishing (community outreach)

Currently, Swami Rama Himalayan University doesn't have any programme on Overfishing (community outreach).

14.3 Supporting aquatic ecosystem through action

Swami Rama Himalayan University supports actions to maintain ecosystems in rivers, lakes and seas.

14.3.1 Conservation and sustainable utilisation of the oceans (events)

Swami Rama Himalayan University organised awareness events aimed at promoting conservation and sustainable utilisation of the lakes and rivers.

Particulars	Status	Details
Existence of events	Yes	Existence of Conservation and sustainable utilisation of the oceans(events) 1. World Water Day, 2. Affordable climate-resilient water supply infrastructure prototype for the Indian Himalayan Region, 3. World Environment Day
Evidence provided	Yes	Pictures and report
Is the evidence provided public	Yes	https://srhu.edu.in/uncategorized/world-environment-day-celebrations/

Evidence

Activities undertaken by the academic units involving the students and local community on freshwater ecosystem management

	Activity	Outcome	No. of Beneficiaries
1	World Water Day	Awareness among the community	529 participants
2	Affordable climate-resilient water supply infrastructure prototype for Indian Himalayan Region	Low-cost climate-resilient tapping prototype	Pauri, Chamoli, Uttarkashi, Rudraprayag and Tehri district of Uttarakhand
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Details of the activities

1. World Water Day

Name of Program: World Water Day

Date: 22-23 March 2025

Location: Himalayan School of Yoga Sciences (HSYS), Himalayan School of Bio Sciences (HSBS), Himalayan School of Science & Technology (HSST), Himalayan School of Management Studies (HSMS), Himalayan College of Nursing (HCN), Kokalyal and Tachela Villages, Tehri Garhwal, and village & Primary School Thano.

No. of Beneficiaries: 529

S.N.	Location	No. of Beneficiaries
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Supporting by: WATSAN- Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 12

Activity details:

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2. Affordable climate-resilient water supply infrastructure prototype for Indian Himalayan Region

Name of Program: Affordable Climate-resilient Water Supply Infrastructure Prototype for Indian Himalayan Region (3 years)

Date: 29 March 2025

Location: 5 Districts (Pauri, Rudraprayag, Chamoli, Tehri & Uttarkashi) of Uttarakhand

Supporting by: National Mission on Himalayan Studies (NMHS), Ministry of Environment Forest & Climate Change (MoEFCC), Government of India with Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 6

Activity detail:
Aim: The aim of this project is to develop Low-cost, Climate-resilient, prefabricated source tapping prototype and water supply infrastructure for Indian Himalayan Region. to ensure a continuous supply of clean water.

Objective(s):

- To Design and develop Low-cost, Climate-resilient, prefabricated source tapping & Filtration system tailored to the unique challenges of Tehri, Pauri, Rudraprayag, Chamoli and Uttarkashi.
- Action Research to assess the feasibility, scalability, functionality and economic viability of the system, Awareness raising, building sense of ownership, capacity building and advocacy
- Access to potable and regular drinking water for indigenous mountain communities to improve access to clean drinking water for indigenous communities in these disaster-prone areas.

Goals:

To make a affordable and resilient water supply infrastructure which will be managed by community and enhance the capacity of the community in the collaboration of government department.

Project Area

5 Districts – Chamoli, Rudraprayag, Pauri, Tehri and Uttarkashi of Uttarakhand State has been selected for the project. Selected areas are regularly affected by flash floods, landslides, wildfires, glacier lake outbursts, cloudburst incidences, and earthquakes. The combination of unfavorable geology, steep sloping areas, and cloudburst incidences makes the occurrence of landslides very likely, with 51 percent of the state's area having high or very high landslide susceptibility. Frequent disasters, such as the 2013 floods and landslides with 4,000 fatalities, the 2016 forest fire affecting more than 4,500 hectares of forest, the 2021 rock and ice avalanche, and the slow subsidence unfolding in Joshimath - Chamoli, are disrupting development. This is having multi-dimensional effects on the state's development including water crisis during and after such incidences. 2,753 water schemes were damaged during 2013 flash floods and landslides. Selected area's landmass falls under Seismic Zone IV or V, the highest seismic risk zones of the country, and has witnessed 11 major earthquakes over the last century. According to ISRO's 'Landslide Atlas,' Rudraprayag and Tehri districts have the highest exposure to landslide risks in India. Chamoli ranked 19th nationally, Pauri ranked 23rd and Uttarkashi 21st in terms of landslide risk. In Uttarakhand major fires have been noted in 1911, 1921,1930, 1945, 1953, 1957, 1958, 1966, 1968, 1970, 1972, 1995, 1999, 2012,

2016, 2021, 2022. Tehri Garhwal and Pauri Garhwal are the most fire-sensitive districts in Uttarakkahnd. Our organization has implemented 342 water supply schemes of different technologies - gravity & pumping form spring & stream and it has been observed that water supply structures particularly source tapping & filtration unit nearby water sources along with supply main pipe lines are most vulnerable to disasters (heavy rainfall, landslide, cloud burst, flash flood), while forest fires, earthquake, decrease in pre-monsson precipitation & winter precipitation / snowfall affecting lean period discharge of water sources.

This demand driven action research proposal outlines a multifaceted project aimed at addressing pressing water supply schemes's sustainability in the Himalayan regions. The primary objective is to develop an innovative and sustainable Affordable Climate-resilient water supply infrastructure prototype for Indian Himalayan Region. This endeavour is driven by the critical and growing issue of water scarcity in hilly areas, exacerbated by climate change impacts and unreliable traditional water sources. The project's methodology is structured into eight phases, each serving a distinct purpose.

Activities to Achieve Project Goals

To accomplish the project's overarching goals of establishing disaster-resilient water supply systems in Tehri, Pauri, Uttrakashi, Chamoli and Rudraprayag following methodology will be adopted

Methodology showing the process-flow of the assessment, designing, fabrication and operation of the prototype model of the proposed devise will be adopted:-

Step 1: Situational Assessment: Selected area face several challenges, including vulnerability to flash floods, landslides, and earthquakes, which severely disrupt water supply systems, exacerbate water scarcity during and after disasters, and endanger human lives. Natural groundwater springs & Rivulets suffer from deteriorating water quality during monsoons and dry periods, leading to waterborne diseases. These challenges underscore the pressing need for a disaster-resilient water supply system.

Step 2: Review of Existing Technologies: A comprehensive review of existing disaster-resilient water supply technologies will be conducted. This includes studying both domestic and international solutions to gather insights and best practices.

Step 3: Stakeholder Consultations: Engaging with stakeholders, including local communities, government authorities, and relevant organizations, is crucial. Initial consultations will be held to understand the specific needs and challenges in the study areas.

Step 4: Development of Precise Designs:

Detailed designs and technical specifications for Affordable Climate- resilient water supply infrastructure equipped with filtration system will be developed. These designs will focus on optimizing water inflow, preventing the entry of sediments and debris, and ensuring efficient water treatment and ensure regular water supply.

Step 5: Prototype Development: A pilot-scale prototype of the disaster-resilient water supply system will be developed. This prototype will serve as a model for the actual system and will undergo lab simulations and field scale testing.

Step 6: Field Pilot Testing: The prototype will be installed in selected disaster-prone areas. Field pilot testing will be conducted under various scenarios and seasons, to assess the system's performance under adverse conditions.

Step 7: Monitoring and Data Collection: Data will be collected continuously to evaluate how effectively the system functions and treats water. Particular attention will be improvements in water quality.

Step 8: Comprehensive System Analysis: A thorough analysis of the disaster-resilient water supply system's performance will be conducted. This analysis will cover technical feasibility, economic viability, and scalability potential.

Step 9: Capacity Building & Training Programs: Training sessions on new technology for engineers and community (Gram Panchayat, Women, Village water sanitation committees and Van Panchayat will be organized.

Step 10: Sustainability Planning: A sustainability plan will be developed to ensure the continued functionality of the implemented systems. This plan will outline strategies for Operation & Maintenance.









NITESH KAUSHIK
Dy.Director
Himalayan Institute Hospital Trust
Swami Rama Himalayan University

03 World Environment Day

Name of Program: World Environment Day- One day Awareness session on Water conservation & waste Management

Date: 04 June 2025

Location: Wipro Enterprise Ltd, 99-103, Integrated Industrial Estate, Sector 6, sidcul, Haridwar, Uttarakhand 247667

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

Supporting by: Wipro Enterprise Ltd. sidcul, Haridwar with Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 03

Activity detail:

On the occasion of World Environment Day, Wipro Enterprises Ltd., Haridwar organized an awareness session on Water Conservation and Waste Management for its staff and officers. The session was conducted by Er. Atul Uniyal, Scientist at SRHU, who delivered a presentation on sustainable solutions through Integrated Water Resource Management (IWRM), emphasizing the balanced development and management of water and related resources without compromising their sustainability. Key topics such as water conservation, groundwater recharge, rainwater harvesting, wastewater management, and pond rejuvenation were discussed. Additionally, Mr. Lakhpat Singh Bisht, Coordinator at HIHT, demonstrated water quality monitoring techniques using a Field Test Kit. The session was attended by 24 participants including Mr. Arvind Chauhan, Human Resource Manager, Wipro Enterprises Ltd., and Dr. Vivek from HIHT–SRHU. The Wipro team appreciated the informative and engaging session, which concluded with a formal vote of thanks delivered by Mr. Arvind Chauhan.







NITESH KAUSHIK
Dy.Director
Himalayan Institute Hospital Trust
Swami Rama Himalayan University

Name of Program: World Water Day

Date: 22-23 March 2025

Location: Himalayan School of Yoga Sciences (HSYS), Himalayan School of Bio Sciences (HSBS), Himalayan School of Science & Technology (HSST), Himalayan School of Management Studies (HSMS), Himalayan College of Nursing (HCN), Kokalyal and Tachela Villages, Tehri Garhwal, and village & Primary School Thano.

No. of Beneficiaries: 529

S.N.	Location	No. of Beneficiaries
1	Himalayan School of Yoga Sciences (HSYS)	74
2	Himalayan School of Bio Sciences (HSBS)	73
3	Himalayan School of Science & Technology (HSST)	86
4	Himalayan School of Management Studies (HSMS)	94
5	Himalayan College of Nursing (HCN)	46
6	Kokalyal Villages Tehri Garhwal	43
7	Tachela Villages Tehri Garhwal	38
8	Gudiyawala village	35
9	Inter Collage Thano	40

Supporting by: WATSAN- Swami Rama Himalayan University (SRHU)

Role of University: Staff/ Faculty- 12

Activity details:

1. Lecture on Water Conservation and Water Oath for SRHU Students

WATSAN-SRHU organized a lecture on water conservation and administered a Water Oath to its students. The event aimed to raise awareness about the importance of water conservation and promote sustainable water management practices among the students.

During the lecture, experts highlighted the significance of water conservation, its impact on the environment, and simple yet effective ways to save water. The students actively participated in the discussion, gaining valuable insights into water conservation.

Following the lecture, the students took a Water Oath, pledging to adopt water-saving practices and promote sustainability in their daily lives.

2. RDI exhibition area and rainwater harvesting site visit

As part of the World Water Day celebrations, students from SRHU visited the RDI exhibition area and rainwater harvesting site. The visit aimed to educate students about water conservation and sustainable water management practices.

The RDI exhibition area showcased various water conservation techniques, Innovation and technologies, while the rainwater harvesting site demonstrated a practical approach to collecting and utilizing rainwater. The visit inspired students to adopt water-saving practices and promote sustainability in their communities.

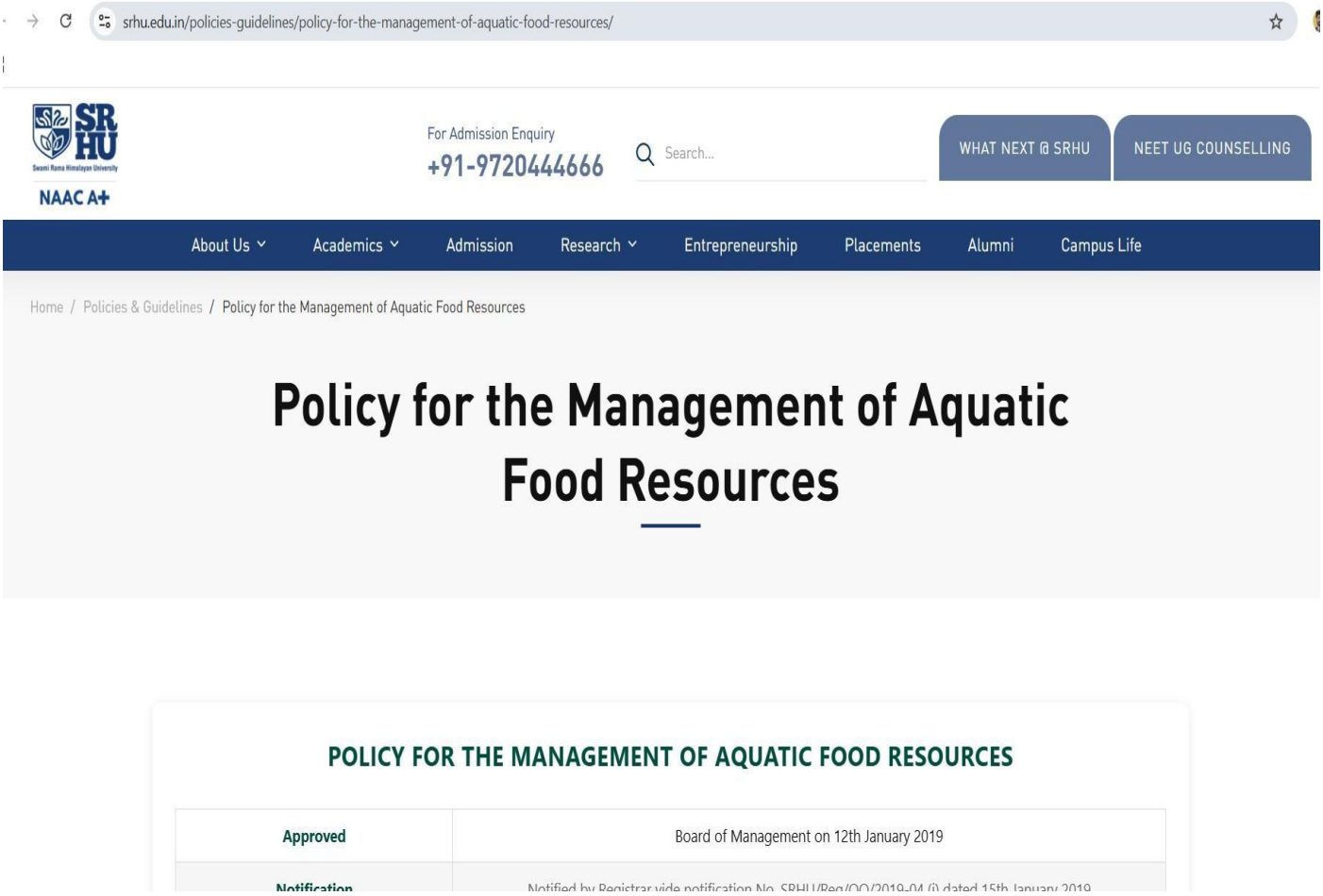
14.3.2 Food from aquatic ecosystem

Swami Rama Himalayan University holds a policy to ensure that the food on campus that comes from aquatic ecosystems is sustainably harvested. The plan has existed since 2019; the policy has been revised in 2022, and the next revision is proposed in 2025-26.

Particulars	Status	Details
Existence of policy	Yes	Existence of Food from aquatic ecosystem policy since 2019
Evidence provided	Yes	Screenshot of the policy for Food from aquatic ecosystem
Is the evidence provided public	Yes	https://srhu.edu.in/policies-guidelines/policy-for-the-management-of-aquatic-food-resources/
Is policy created or reviewed in period 2022-2026	Yes	Revised in 2022

Evidence

Screenshot of the policy for Food from aquatic ecosystems



14.3.3 Maintain ecosystem and their biodiversity (direct work)

The **School of Biosciences (SBS)** at Swami Rama Himalayan University has two dedicated research laboratories, (1) Algal Culture Laboratory, (2) Aquatic Toxicology Laboratory, that contribute directly to research and capacity-building in ecosystems and their biodiversity:

1. **Algal Culture Laboratory:** Facilitates the isolation, cultivation, and study of microalgae with potential applications in wastewater treatment, bioenergy, and environmental monitoring. Supports academic training and interdisciplinary research in algal biotechnology and aquatic health.
2. **Aquatic Toxicology Laboratory** conducts eco-toxicological evaluations to assess the impact of pollutants and emerging contaminants on aquatic organisms and ecosystems. Plays a key role in environmental risk assessment and water quality monitoring of inland water bodies.

Particulars	Status	Details
Existence of direct work	Yes	Maintain ecosystems and their biodiversity (direct work) (1) Algal Culture Laboratory, (2) Aquatic Toxicology Laboratory
Evidence provided	Yes	Snapshot provided below ● Algal Culture Laboratory ● Website screenshot: Algal Culture Laboratory, Aquatic Toxicology Laboratory ● Outcome of the research undertaken in these laboratories ● Screenshot of patent as outcome of the research undertaken in these laboratories
Is the evidence provided public	Yes	https://srhu.edu.in/school-of-biosciences-highlights/

Evidences

Evidence 1

Algal Culture Laboratory: Facilitates the isolation, cultivation, and study of microalgae with potential applications in wastewater treatment, bioenergy, and environmental monitoring. Supports academic training and interdisciplinary research in algal biotechnology and aquatic health.



Algal Cultivation Laboratory at School of Biosciences

2 Aquatic Toxicology Laboratory

Conducts eco-toxicological evaluations to assess the impact of pollutants and emerging contaminants on aquatic organisms and ecosystems. Plays a key role in environmental risk assessment and water quality monitoring of inland water bodies.

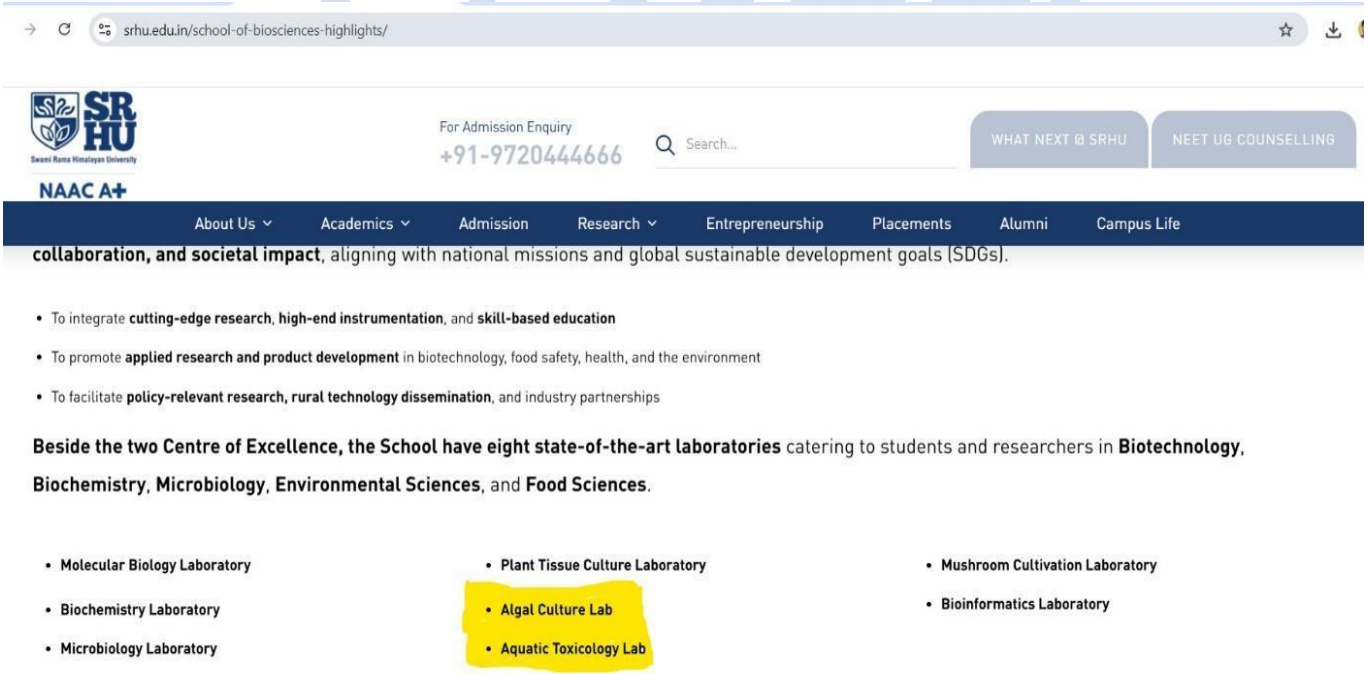




Aquatic toxicology lab at School of Biosciences

Evidence 2

Screenshot of the website showing the presence of the labs: Algal Culture Laboratory, Aquatic Toxicology Laboratory



Evidence 3

Outcome of the research undertaken in these laboratories

	Laboratory	Outcome
1	Algal Culture Laboratory	3 microalgal strains maintained; 2 student researchers
2	Aquatic Toxicology Laboratory	1 patent

Evidence 4

Screenshot of patent as outcome of the research undertaken in these laboratories

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :22/05/2023

(21) Application No.202311035397 A

(43) Publication Date : 30/06/2023

(54) Title of the invention : APPARATUS FOR REAL-TIME VIDEOTAPING AND STILL IMAGE CAPTURING FOR FISH BEHAVIORAL PATTERNS

(51) International classification	:H04L 673060, H04N 052320, H04N 071600, H04N 098200, H04N 218100
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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3)Chandra Shekhar Nautiyal
Address of Applicant :Himalayan School of Biosciences, Swami Rama Himalayan University, Swami Ram Nagar, Jolly Grant, Dehradun, Uttarakhand, 248016, India Dehradun ---------- ----------

(57) Abstract :
The present invention provides an apparatus for real-time videotaping and still image capturing for fish behavioral patterns that includes an upper (2) and a lower (3) horizontal frame, and frame separator (4), on stands (5). Upper frame (2) a horizontal frame responsible for the movement of frame (7) and further frame (2) has markings from 0o to 360o. Frame (3) a lower horizontal frame with the markings of 0o to 360o and this frame gives the platform to camera holder (9) so that image and video may be captured at any angel between 0o to 360o. Frame (2) and (3) are connected with the help of separators (4) and these separators provide a gap between frame (2) and (3) so that frame (7) and camera holder (9) may rotate freely on their respective pathways.

No. of Pages : 23 No. of Claims : 9

14.3.4 Technologies towards aquatic ecosystem damage prevention (direct work)

Swami Rama Himalayan University supports both intramural as well as extramural research projects focused on improving freshwater ecosystems and promoting practices that enable minimising the damage to aquatic ecosystems.

Particulars	Status	Details
Existence of direct work	Yes	Technologies towards aquatic ecosystem damage prevention (direct work) 2 Intramural grants, 1 extramural grant
Evidence provided	Yes	Snapshots of Intramural grants & extramural grant provided below
Is the evidence provided public	Yes	https://srhu.edu.in/school-of-biosciences-intramural-projects/

Project details:

Project	Funding	Duration	Faculty involved
Upgrading plant-microbe-based approach to enhance phytoremediation method in contaminated water bodies.	₹5,75,000/-	12 months	04
Establishment of behavioural bio-indicator in freshwater stream fish against the specific neurotoxin.	₹4,00,000/-	2 years	03
Bio-prospecting of microalgae for biomass production and treatment of hospital wastewater	₹9,75,000/-	3 years	03

1. (Intramural)

Title : Upgrading plant-microbe-based approach to enhance phytoremediation method in contaminated water bodies.

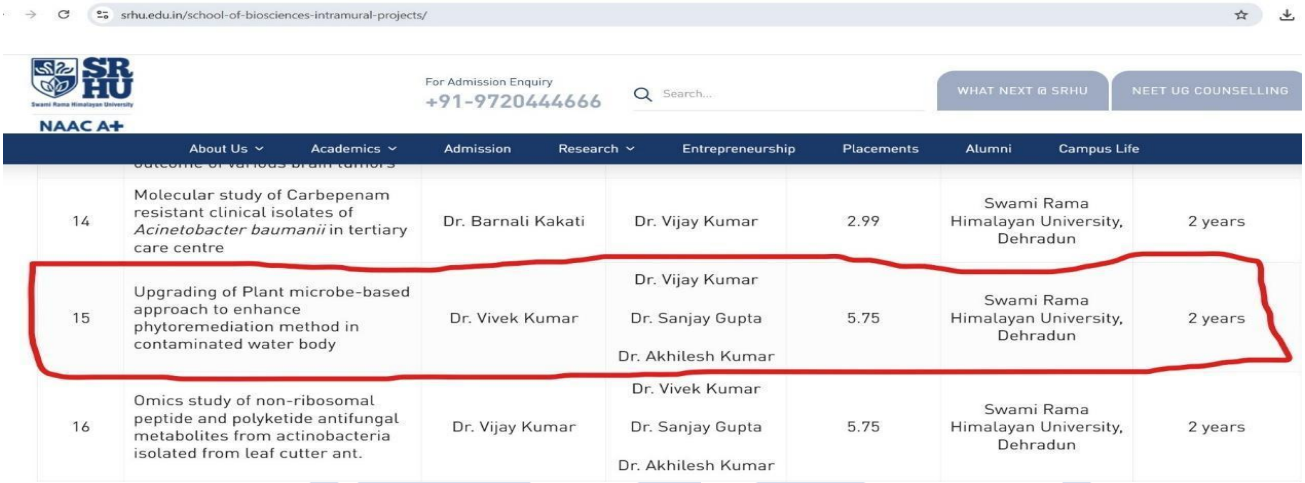
Duration : 12 months

Principal Investigator : Dr Vivek Kumar (School of Biosciences)

Sanctioned Grant : 5,75,000/-

This project focuses on enhancing natural water remediation processes using symbiotic plant-microbe systems. It aims to reduce the ecological footprint of anthropogenic pollutants and restore aquatic ecosystems using bio-based sustainable technologies.

Evidence 1
Intramural Grant

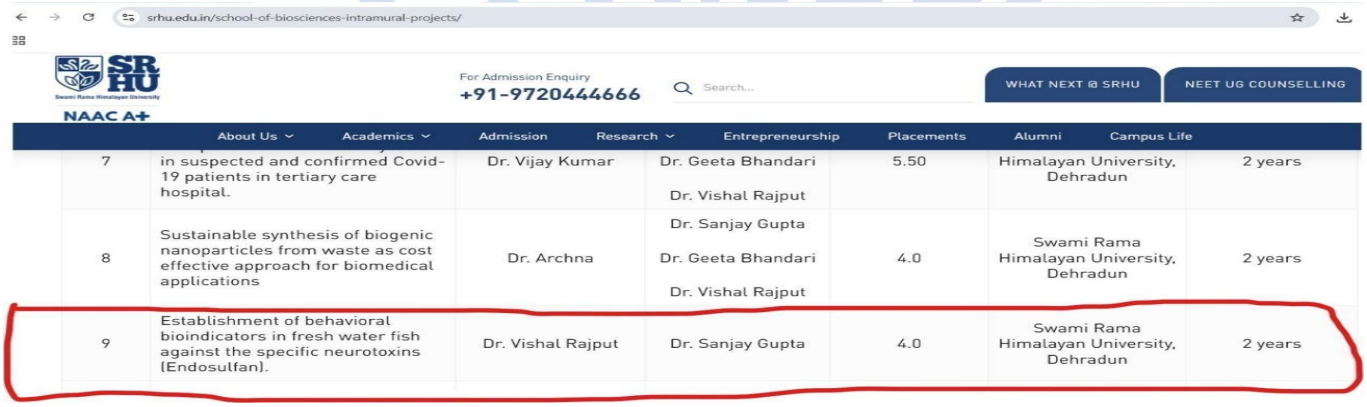


2. (Intramural)

Title	:	Establishment of a behavioural bio-indicator in freshwater stream fish against the specific neurotoxin.
Duration	:	2 years
Principal Investigator	:	Dr Vishal Rajput (School of Biosciences)
Sanctioned Grant	:	4,00,000/-

This project aims to investigate alterations in swimming patterns, feeding behaviour, response to stimuli, and other physiological activities following neurotoxin exposure. It seeks to understand the toxic effects of neuroactive contaminants on fish health and aquatic ecosystems by using non-invasive assessment tools for water quality evaluation.

Evidence 2
Intramural Grant



01 (Extramural)

Title	:	Bio-prospecting of microalgae for biomass production and treatment of hospital wastewater
Duration	:	3 years
Principal Investigator	:	Dr Geeta Bhandari (School of Biosciences)
Sanctioned Grant	:	Rs. 9,75,000/-

This project aims to explore the dual potential of indigenous microalgae in producing bio-resources and treating hospital effluents. It focuses on developing eco-friendly wastewater treatment systems and supports water sustainability and pollution reduction.

Evidence 3

Extramural Grant



srhu.edu.in/school-of-biosciences-extramural-projects/

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4	Enhancement of Bioavailability of Iron and Zinc in Finger Millet Using Endophytes	Dr Vivek Kumar, Professor, SBS	Dr Sanjay Gupta, Dr. Vijay Kumar,	7.5	Uttarakhand Council for Biotechnology (UCB)	2 Years	30.03.2019	Completed
5	Bio-Prospecting of Microalgae for Biomass Production and Treatment of Hospital	Dr Geeta Bhandari, Assistant Professor, SBS	Dr Sanjay Gupta, Dr. Vivek Kumar	9.8	Uttarakhand State Council for Science & Technology (R&D, UCOST)	3 Years	07.05.2022	Ongoing

14.4 Water sensitive waste disposal

Swami Rama Himalayan University has established a comprehensive and environmentally responsible wastewater management framework to ensure the safe treatment, recycling, and reuse of both domestic sewage and industrial effluents.

14.4.1 Water discharge guidelines and standards

Swami Rama Himalayan University has established a robust liquid waste management system to ensure safe treatment, reuse, and disposal of wastewater generated across the premises.

1. Sewage and Effluent Treatment at SRHU

Effective wastewater management is a key component of Swami Rama Himalayan University‘s commitment to environmental sustainability and responsible resource management. The University operates a 1 MLD Sewage Treatment Plant (STP) and a 90 KLD Effluent Treatment Plant (ETP) to ensure the safe treatment and reuse of domestic and laboratory wastewater in compliance with the guidelines of the Central Pollution Control Board (CPCB) and the State Pollution Control Board (SPCB). The STP employs advanced treatment processes, including equalisation, pH correction, aeration, primary and secondary sedimentation, Moving Bed Biofilm Reactor (MBBR) technology, and dual-media filtration to produce high-quality treated water. During 2024–2025, the treated water was extensively reused for horticulture, landscape irrigation, toilet flushing, and campus maintenance, reducing the University's dependence on freshwater resources and preventing the discharge of untreated wastewater into the environment. These initiatives support water conservation, protect soil and aquatic ecosystems, enhance

resource efficiency, and contribute to SRHU's sustainable green campus and circular water management practices.

2. Sewage Treatment Plant (STP)

Swami Rama Himalayan University continues to strengthen its commitment to sustainable water management through the operation of a 1 MLD Sewage Treatment Plant (STP) that ensures the effective treatment and reuse of wastewater generated on campus. The STP employs an advanced Moving Bed Biofilm Reactor (MBBR)-based biological treatment system comprising bar screening, equalisation, aeration, primary and secondary sedimentation, Pressure Sand Filtration (PSF), Activated Carbon Filtration (ACF), and Ultrafiltration (UF) to produce treated water that complies with the standards prescribed by the State Pollution Control Board (SPCB). During 2024–2025, the treated wastewater was extensively reused for horticulture, landscape irrigation, and maintenance of the University's green spaces, thereby reducing dependence on freshwater resources and promoting sustainable water reuse. The sludge generated during the treatment process is utilised as manure for the campus green belt, supporting nutrient recycling and sustainable landscaping. To ensure compliance with environmental standards, the quality of influent and treated effluent is tested every six months by an NABL-accredited laboratory, with results consistently meeting the prescribed regulatory norms. These initiatives reflect SRHU's commitment to circular water management, pollution prevention, and the conservation of natural resources.

Particulars	Status	Details
Existence of standards and guidelines	Yes	Water discharge guidelines and standards
Evidence provided	Yes	Photographs of STP & ETP
Is the evidence provided public	Yes	srhu.edu.in/water-conservation/

Evidence:

Evidence 1:

Sewage Treatment Plant at SRHU

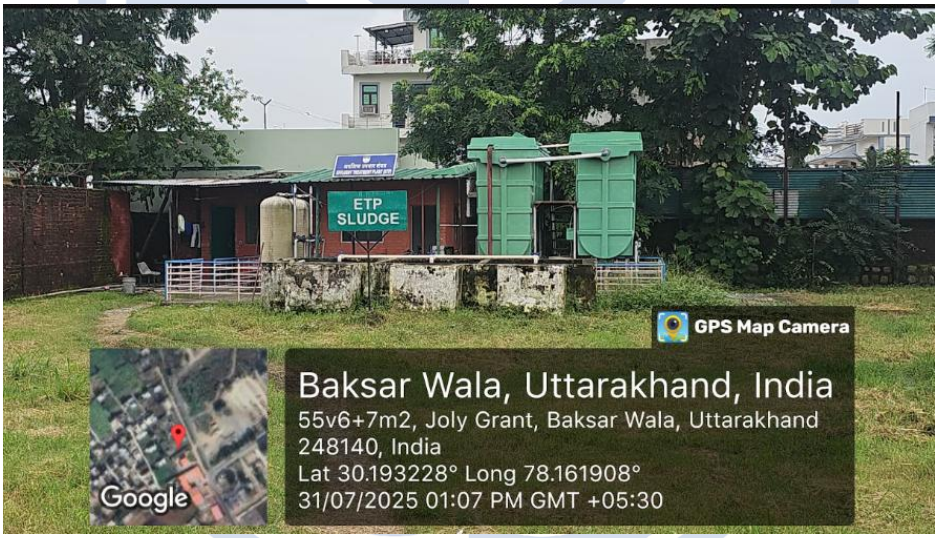


3. Effluent Treatment Plant (ETP)

Swami Rama Himalayan University is committed to sustainable wastewater management through the operation of a 90 KLD Effluent Treatment Plant (ETP), which treats laboratory and laundry wastewater generated on campus before its safe reuse. The ETP ensures that wastewater is treated in accordance with prescribed environmental standards, preventing contamination of soil and water resources while safeguarding public health and the campus ecosystem. During 2024–2025, the treated effluent was recycled and reused for horticulture, landscape irrigation, and other non-potable purposes, significantly reducing the University's dependence on freshwater resources. By promoting wastewater recycling and resource recovery, the ETP contributes to water conservation, pollution prevention, and the University's commitment to sustainable campus operations and circular resource management.

Evidence 2:

Effluent Treatment Plant at SRHU



4. Recycled Water Utilisation

Swami Rama Himalayan University further strengthened its commitment to sustainable water management by maximising the reuse of treated wastewater generated through its 1 MLD Sewage Treatment Plant (STP) and 90 KLD Effluent Treatment Plant (ETP). Treated water was extensively recycled for horticulture, landscape irrigation, green belt maintenance, toilet flushing, and other non-potable applications, significantly reducing the University's dependence on freshwater resources. This integrated water reuse system conserves groundwater, minimises wastewater discharge into the environment, and supports the University's circular water management approach. By efficiently treating and reusing wastewater, SRHU continues to promote

resource efficiency, environmental sustainability, and the conservation of terrestrial and aquatic ecosystems in alignment with SDG 6 (Clean Water and Sanitation) and SDG 15 (Life on Land).

Evidence 3

Recycled Water Utilisation



14.4.2 Action plan to reduce plastic waste

Swami Rama Himalayan University has an existing policy and action plan to reduce plastic waste on campus. The plan has existed since 2019; the policy has been revised in 2022, and the next revision is proposed in 2025-26.

Particulars	Status	Details
Existence of plan	**Yes**	Existence of policy on reducing plastic waste since 2019
Evidence provided	**Yes**	Snapshot provided below
Is the evidence provided public	**Yes**	srhu.edu.in/policies-guidelines/policy-for-plastic-and-disposable-items-minimization/

Evidence:

Screenshot of the policy on reducing plastic waste





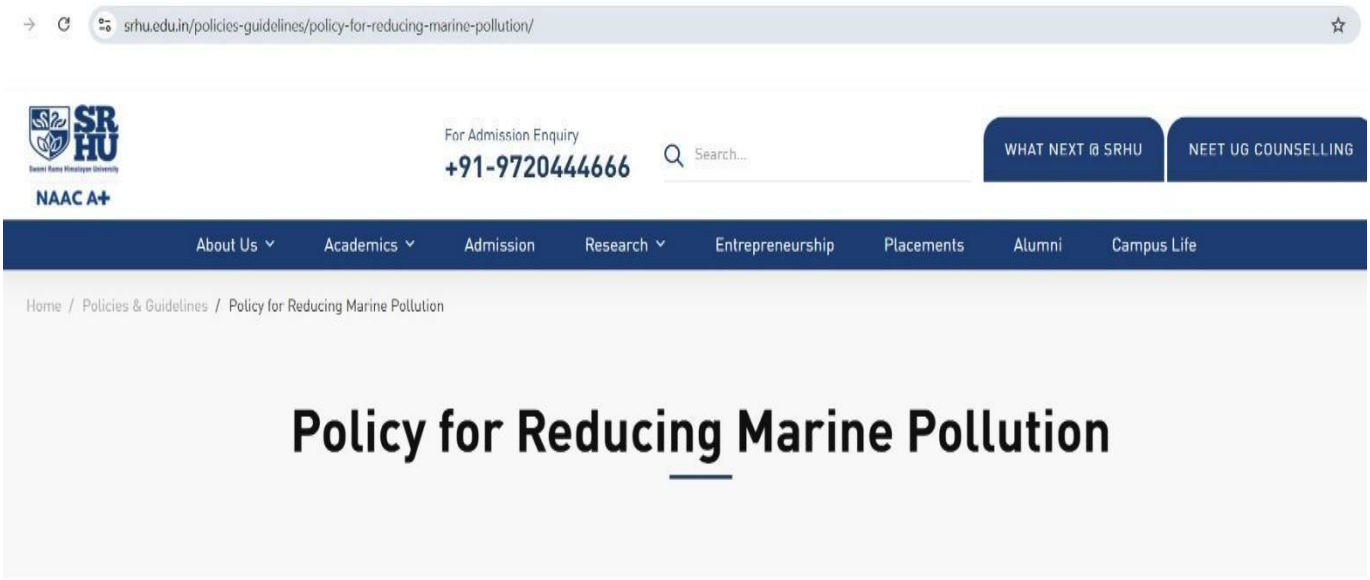
14.4.3 Reducing marine pollution

Swami Rama Himalayan University has an existing policy for reducing marine pollution. The policy has existed since 2019; it was revised in 2022, and the next revision is proposed in 2025-26.

Particulars	Status	Details
Existence of policy	Yes	Existence of policy on reducing marine pollution since 2019
Evidence provided	Yes	Snapshot provided below
Is the evidence provided public	Yes	URL: srhu.edu.in/policies-guidelines/policy-for-reducing-marine-pollution/
Is policy created or reviewed in period 2022-2026	Yes	Revised in March 2022

Evidence 1

Policy on Reducing marine pollution





14.5 Maintaining a local ecosystem

14.5.1 Minimising alteration of aquatic ecosystems (Plan)

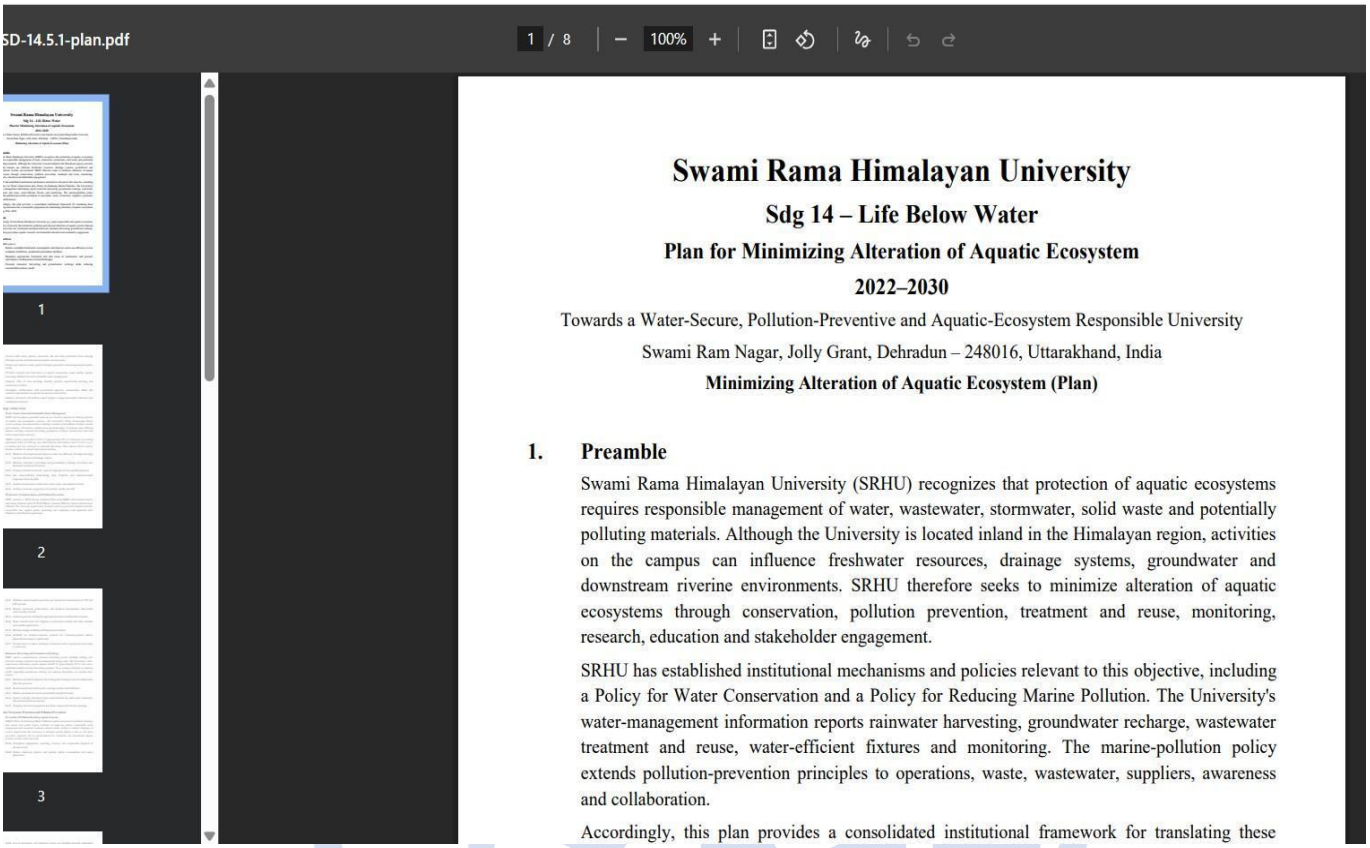
This policy establishes the framework for sustainable water management at Swami Rama Himalayan University. It provides guidelines for responsible usage, conservation, recycling, and recharge practices to ensure long-term sustainability of water resources.

Particulars	Status	Details
Existence of plan	Yes	Existence of Minimising alteration of aquatic ecosystems (Plan)
Evidence provided	Yes	Plan uploaded on website
Is the evidence provided public	Yes	srhu.edu.in/wp-content/uploads/2026/09/SRHU_SD-14.5.1-plan.pdf

Evidence 1

Minimising alteration of aquatic ecosystems (Plan)

srhu.edu.in/wp-content/uploads/2026/09/SRHU_SD-14.5.1-plan.pdf



SD-14.5.1-plan.pdf 1 / 8 100%

Swami Rama Himalayan University

Sdg 14 – Life Below Water

Plan for Minimizing Alteration of Aquatic Ecosystem

2022–2030

Towards a Water-Secure, Pollution-Preventive and Aquatic-Ecosystem Responsible University

Swami Ram Nagar, Jolly Grant, Dehradun – 248016, Uttarakhand, India

Minimizing Alteration of Aquatic Ecosystem (Plan)

1. Preamble

Swami Rama Himalayan University (SRHU) recognizes that protection of aquatic ecosystems requires responsible management of water, wastewater, stormwater, solid waste and potentially polluting materials. Although the University is located inland in the Himalayan region, activities on the campus can influence freshwater resources, drainage systems, groundwater and downstream riverine environments. SRHU therefore seeks to minimize alteration of aquatic ecosystems through conservation, pollution prevention, treatment and reuse, monitoring, research, education and stakeholder engagement.

SRHU has established institutional mechanisms and policies relevant to this objective, including a Policy for Water Conservation and a Policy for Reducing Marine Pollution. The University's water-management information reports rainwater harvesting, groundwater recharge, wastewater treatment and reuse, water-efficient fixtures and monitoring. The marine-pollution policy extends pollution-prevention principles to operations, waste, wastewater, suppliers, awareness and collaboration.

Accordingly, this plan provides a consolidated institutional framework for translating these

14.5.2 Monitoring the health of aquatic ecosystems

Swami Rama Himalayan University supports intramural as well as extramural research grants focused on monitoring the health of aquatic ecosystems and promoting practices to minimise the damage to aquatic ecosystems.

Particulars	Status	Details
Existence of monitoring	**Yes**	Existence of monitoring the health of aquatic ecosystems 2 Intramural and 1 extramural grant
Evidence provided	**Yes**	Snapshot provided below; intramural and extramural projects provided
Is the evidence provided public	**Yes**	https://srhu.edu.in/school-of-biosciences-intramural-projects/

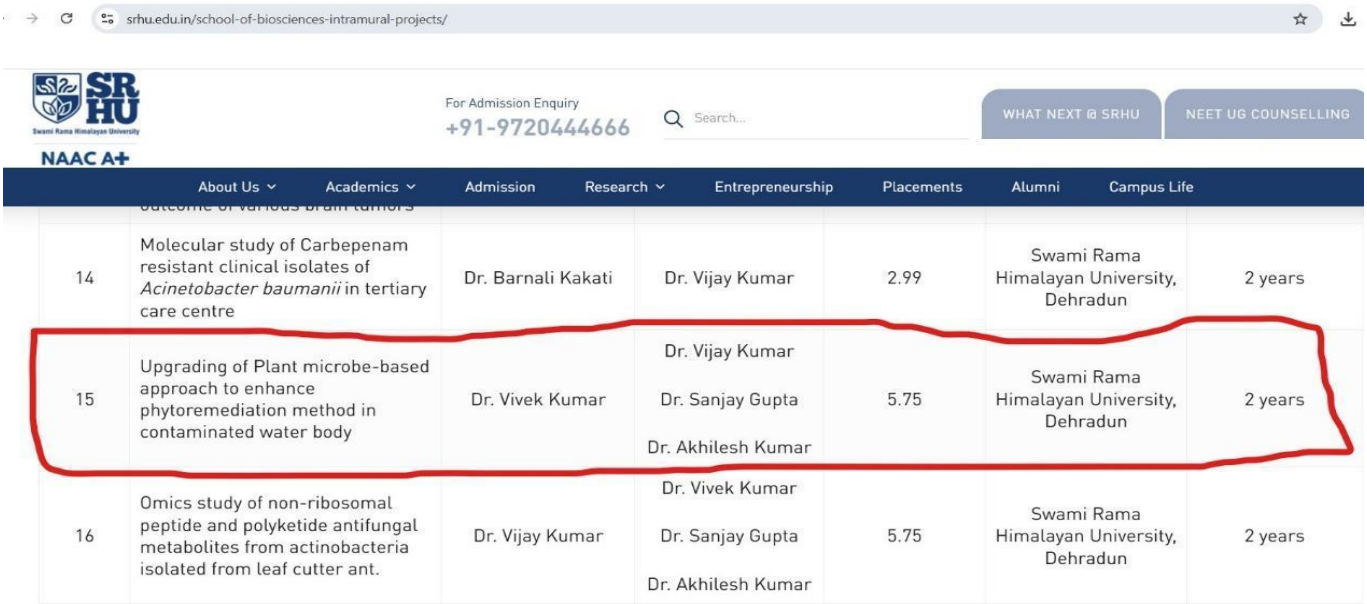
Project details:

Project	Funding	Duration	Faculty involved
Upgrading plant-microbe-based approach to enhance phytoremediation method in contaminated water bodies.	₹5,75,000/-	12 months	04
Establishment of a behavioural bio-indicator in freshwater stream fish against the specific neurotoxin.	₹4,00,000/-	2 years	03
Bio-prospecting of microalgae for biomass production and treatment of hospital wastewater	₹9,75,000/-	3 years	03

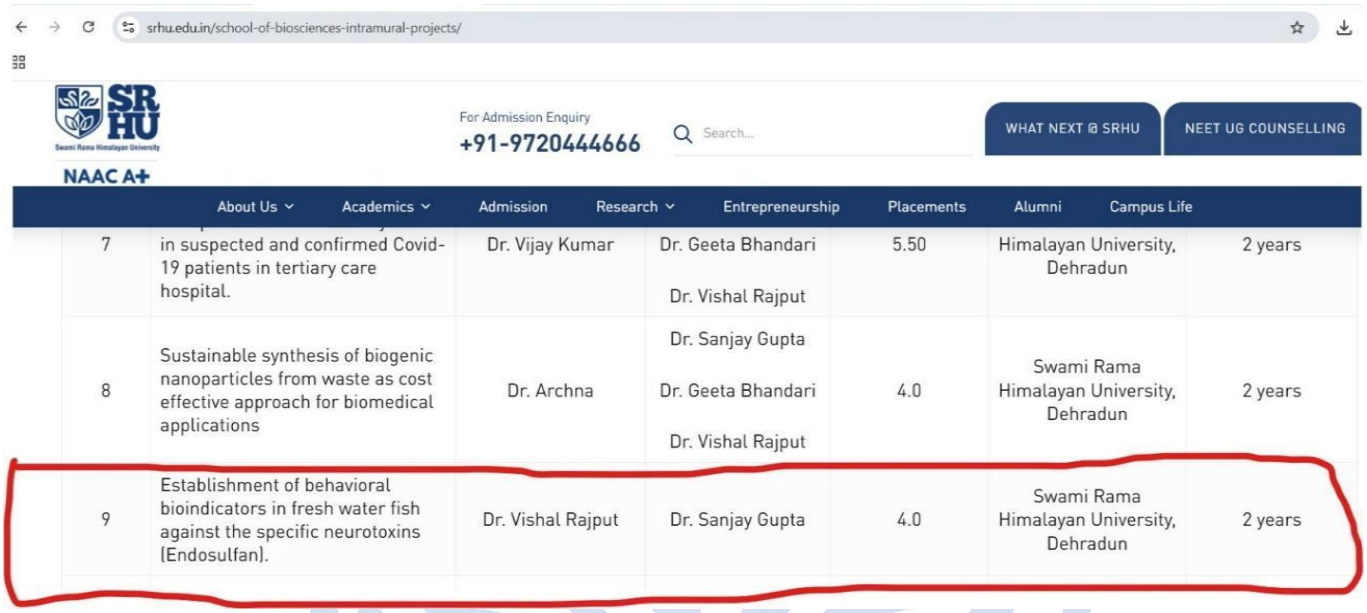
Evidences

Evidence 1

Monitoring the health of the aquatic ecosystem (Intramural)



Evidence 2
Monitoring the health of the aquatic ecosystem (Intramural)



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7	in suspected and confirmed Covid-19 patients in tertiary care hospital.	Dr. Vijay Kumar	Dr. Geeta Bhandari Dr. Vishal Rajput	5.50	Himalayan University, Dehradun	2 years
8	Sustainable synthesis of biogenic nanoparticles from waste as cost effective approach for biomedical applications	Dr. Archna	Dr. Sanjay Gupta Dr. Geeta Bhandari Dr. Vishal Rajput	4.0	Swami Rama Himalayan University, Dehradun	2 years
9	Establishment of behavioral bioindicators in fresh water fish against the specific neurotoxins (Endosulfan).	Dr. Vishal Rajput	Dr. Sanjay Gupta	4.0	Swami Rama Himalayan University, Dehradun	2 years

Evidence 3
Monitoring the health of aquatic ecosystem (Extramural)



srhu.edu.in/school-of-biosciences-extramural-projects/

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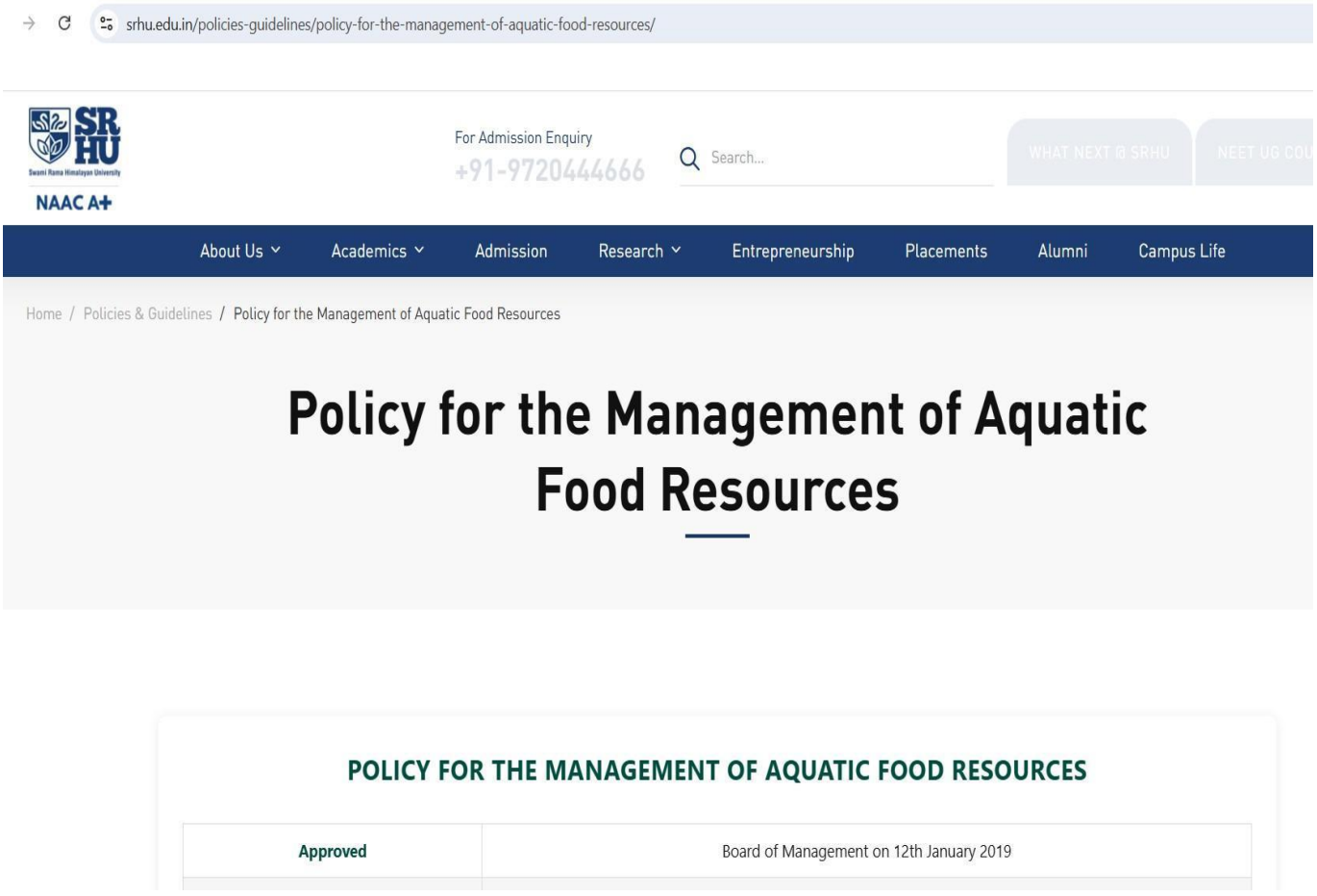
4	Enhancement of Bioavailability of Iron and Zinc in Finger Millet Using Endophytes	Dr Vivek Kumar, Professor, SBS	Dr Sanjay Gupta, Dr. Vijay Kumar,	7.5	Uttarakhand Council for Biotechnology (UCB)	2 Years	30.03.2019	Completed
5	Bio-Prospecting of Microalgae for Biomass Production and Treatment of Hospital	Dr Geeta Bhandari, Assistant Professor, SBS	Dr Sanjay Gupta, Dr. Vivek Kumar	9.8	Uttarakhand State Council for Science & Technology (R&D, UCOST)	3 Years	07.05.2022	Ongoing

14.5.3 Programmes towards good aquatic stewardship practice

Swami Rama Himalayan University supports aquatic stewardship practice to minimise the damage to aquatic resources. The plan has existed since 2019; the policy has been revised in 2022, and the next revision is proposed in 2025-26.

Particulars	Status	Details
Existence of programmes	**Yes**	Existence of Programmes towards good aquatic stewardship practice since 2019
Evidence provided	**Yes**	Snapshot of Programmes towards good aquatic stewardship practice provided
Is the evidence provided public	**Yes**	srhu.edu.in/policies-guidelines/policy-for-the-management-of-aquatic-food-resources/
Is policy created or reviewed in period 2022-2026	**Yes**	Revised in 2022

Evidence
Programmes towards good aquatic stewardship practice

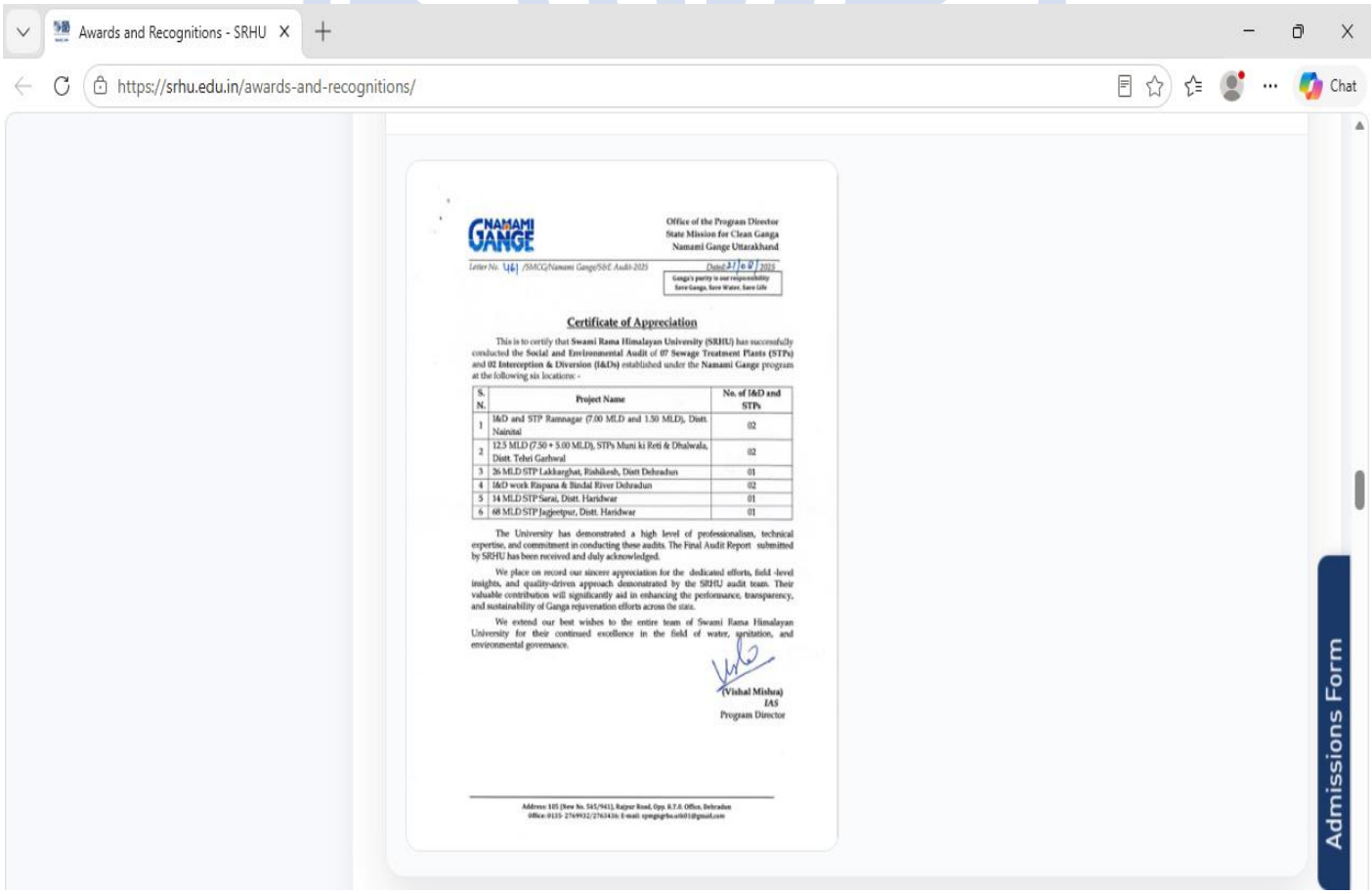


14.5.4 Collaboration for shared aquatic ecosystem

Swami Rama Himalayan University works in collaboration with the local community in efforts to maintain a shared aquatic ecosystem.

Particulars	Status	Details
Existence of collaboration	**Yes**	Existence of collaboration for shared aquatic ecosystem: Social and environmental audits established under NAMAMI GANGE program Collaboration with PHD Chamber of Commerce and Industry (PHDCCI) (2024)
Evidence provided	**Yes**	Snapshot provided below
Is the evidence provided public		URL provided NAMAMI GANGE - https://srhu.edu.in/water-conservation/ PHDCCI - https://srhu.edu.in/mous/

Evidences
Evidence 1
Collaboration for shared aquatic ecosystem

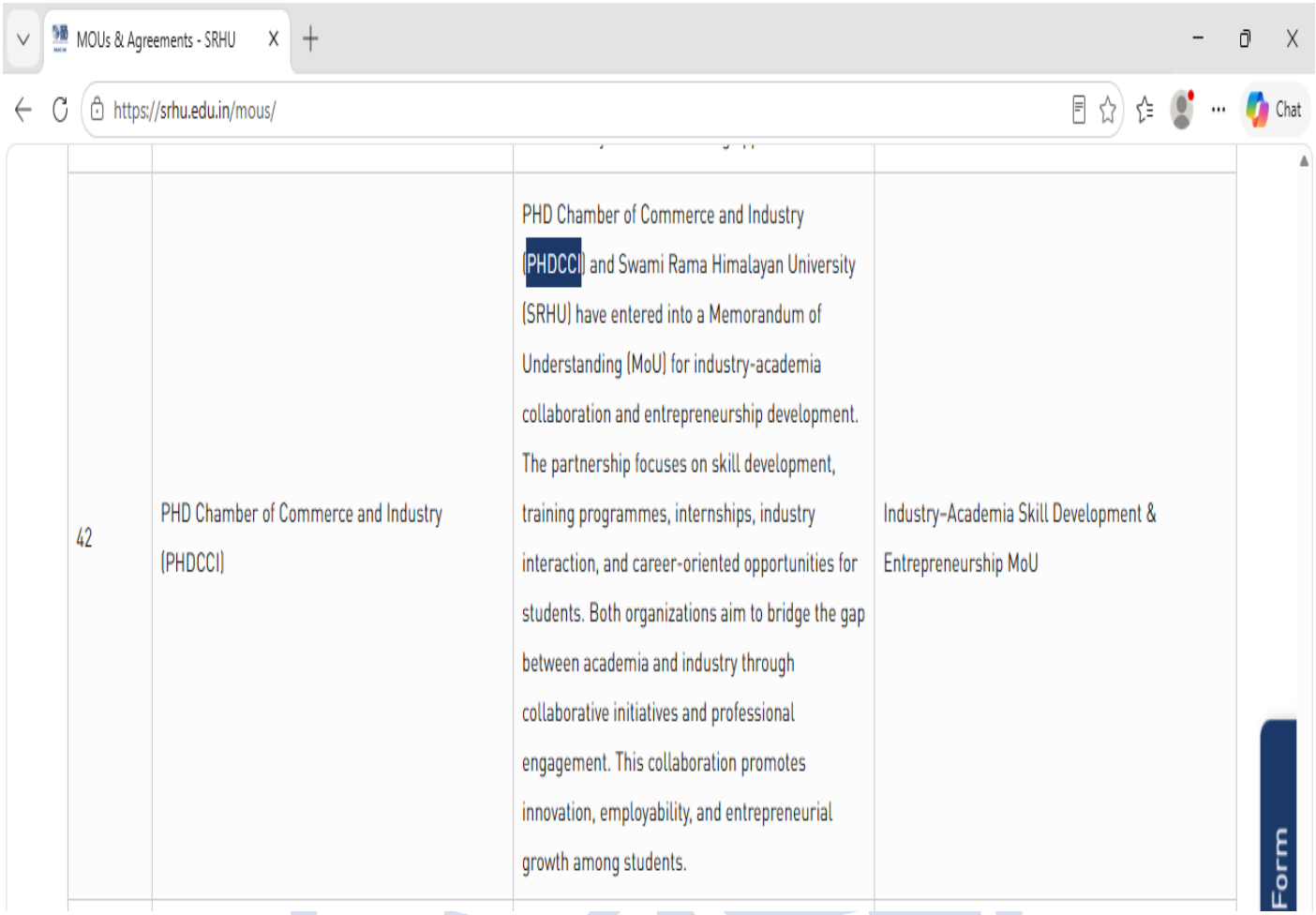


Evidence 2
Collaboration with PHD Chamber of Commerce and Industry (PHDCCI) (2024)

During 2024–2025, Swami Rama Himalayan University (SRHU) strengthened its collaboration with the PHD Chamber of Commerce and Industry (PHDCCI) to promote environmental sustainability, green innovation, and industry–academia partnerships. A key outcome of this collaboration is the establishment of a Carbon Credit Centre at the University, aimed at promoting carbon sequestration, carbon accounting, and climate-resilient development through afforestation, green infrastructure, and sustainable land management practices. The Centre facilitates awareness, research, capacity building, and stakeholder engagement on carbon markets and ecosystem services while encouraging the adoption of nature-based solutions for climate change mitigation. By integrating scientific research with industry expertise, the initiative supports biodiversity conservation, restoration of terrestrial ecosystems, and sustainable resource management, while creating opportunities for carbon credit generation and green economic development. This partnership reinforces SRHU's commitment to environmental stewardship and contributes to the achievement of SDG 13 (Climate Action) and SDG 15 (Life on Land)

Memorandum of Understanding (MoU) with PHD Chamber of Commerce and Industry (PHDCCI)



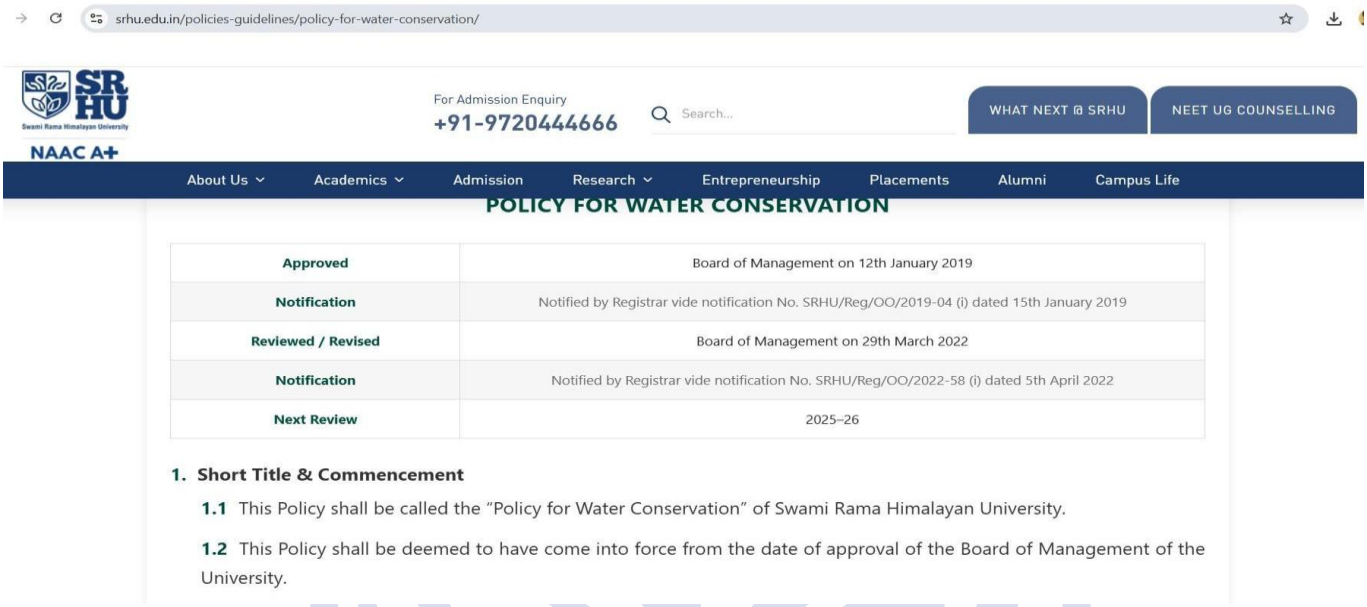


14.5.5 Watershed management strategy

At Swami Rama Himalayan University, water conservation initiatives are in place to reduce water usage, enhance sustainability, and preserve water resources for future generations. These include rainwater harvesting, groundwater recharge, installation of waterless urinals, and innovative water-use systems in toilets and campus facilities.

Particulars	**Status**	**Details**
Existence of strategy	**Yes**	Existence of Watershed management strategy since 2019
Evidence provided	**Yes**	Snapshot provided below
Is the evidence provided public	**Yes**	https://srhu.edu.in/policies-guidelines/policy-for-water-conservation/
Is policy created or reviewed in period 2022-2026	**Yes**	Revised in March 2022

Evidence 1
Watershed management strategy



SDG 14 Champion

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