



SDG 14

Life Below Water

Sustainable Development Goal 14 (SDG 14) focuses on the conservation and sustainable use of oceans, seas, and marine resources to sustain life below water. This goal highlights critical challenges such as marine pollution, overfishing, biodiversity loss, and the effects of climate change on aquatic ecosystems. As oceans are vital for regulating the Earth's climate, providing food, and supporting livelihoods, their protection is crucial for achieving global sustainability and resilience. Addressing SDG 14 requires collective efforts to promote marine conservation, minimize pollution, and implement sustainable management of aquatic resources to benefit both current and future generations.

Swami Rama Himalayan University (SRHU) embraces the principles of SDG 14 by embedding sustainability and environmental responsibility into its academic, research, and community initiatives. Guided by its vision to advance holistic development and societal well-being, the University emphasizes the integral link between aquatic health and human sustainability. SRHU promotes innovative solutions through interdisciplinary education and research, focusing on water conservation, pollution control, and biodiversity preservation. Additionally, the University's outreach programs aim to raise awareness about protecting aquatic ecosystems, empowering communities to adopt sustainable practices that safeguard water resources and promote ecological balance.

Challenges

1. **Marine Pollution:** Increasing levels of plastic waste, untreated wastewater, and harmful chemicals degrade marine ecosystems.
2. **Overfishing:** Unsustainable fishing practices lead to the depletion of fish stocks, threatening food security and livelihoods.
3. **Ocean Acidification:** Rising carbon dioxide absorption is altering ocean chemistry, affecting marine biodiversity and ecosystems like coral reefs.
4. **Climate Change:** Warming waters and rising sea levels disrupt marine ecosystems and coastal habitats.
5. **Habitat Destruction:** Coastal development, illegal fishing, and unsustainable aquaculture contribute to habitat loss.
6. **Policy and Awareness Gaps:** Weak enforcement of marine protection laws and low public awareness hinder effective conservation.
7. **Limited Collaboration:** Insufficient international partnerships restrict coordinated efforts to address global marine issues.

Strategies

1. **Marine Protected Areas (MPAs):** Establish MPAs to safeguard biodiversity and allow ecosystems to recover.
2. **Pollution Reduction:** Implement measures to reduce plastic use, improve waste management, and adopt circular economy models.
3. **Sustainable Fishing Practices:** Strengthen regulations on fishing, promote sustainable aquaculture, and restore fish populations.
4. **Climate Adaptation:** Focus on coastal restoration, blue carbon initiatives, and other mitigation strategies for climate impacts on oceans.



5. **Education and Awareness:** Conduct campaigns to promote responsible behaviors among industries, communities, and governments.
6. **International Collaboration:** Foster partnerships for data sharing, research, and capacity building to tackle global marine issues collectively.
7. **Technology Use:** Encourage innovations like remote sensing and AI for monitoring marine ecosystems and pollution levels.

Alignment with SRHU's Vision

1. **Multidisciplinary Research:** Conduct research on water conservation, pollution mitigation, and sustainable management of aquatic ecosystems.
2. **Community Engagement:** Collaborate with local communities to promote eco-friendly practices like water conservation and pollution control.
3. **Educational Focus:** Integrate environmental conservation principles into academic programs to prepare students for global challenges.
4. **Sustainability Initiatives:** Promote campus-wide practices like efficient water use and pollution management to lead by example.
5. **Capacity Building:** Organize training programs for students, researchers, and community members on sustainable marine and freshwater management.
6. **Global Partnerships:** Establish collaborations with international institutions to enhance knowledge-sharing and adopt best practices in marine conservation.

Research Initiatives

Swami Rama Himalayan University (SRHU) is committed to supporting Sustainable Development Goal 14 (SDG 14), which emphasizes the conservation and sustainable use of oceans, seas, and marine resources. Through multidisciplinary research initiatives, the University addresses critical challenges impacting marine and freshwater ecosystems, fostering innovative and sustainable solutions.



Research on Marine Pollution: SRHU focuses on identifying the sources, impacts, and mitigation strategies for marine pollution, including microplastics and chemical contaminants. Researchers are developing eco-friendly alternatives, such as biodegradable materials, to reduce waste entering aquatic environments.

Sustainable Aquaculture Practices: The University emphasizes research into sustainable aquaculture systems that ensure food security while minimizing environmental harm. This includes designing eco-friendly fish farming methods and exploring the use of organic feed.

Water Conservation and Quality Management: SRHU actively investigates water quality in freshwater and coastal ecosystems. Projects prioritize sustainable water resource management, monitoring practices, and improving access to clean water for communities.

Preservation of Aquatic Biodiversity: Research programs focus on documenting and protecting aquatic biodiversity, with particular attention to endangered and economically vital species. Efforts also include habitat restoration projects, such as mangrove and coral reef rehabilitation, using innovative techniques.

Research Projects

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

S. No.	Name of the project	Duration of the project	Name(s) of the teacher(s) working in the project receiving seed money	The amount of seed money provided (INR in lakhs)	Year of receiving the seed money
1.	Upgrading plant microbe-based approach to enhance	24 Months	Dr Vivek Kumar, HSBS	5.750	2024



	phytoremediation method in contaminated water body				
2.	Emerging threats in Aquaculture: Bibliometric Analysis of Aeromonas sps. as an emerging pathogen	04 Months	Nupur Joshi, Dr. Geeta Bhandari, Dr Archna Dhasmana, Dr Vikash Singh Jadon, Dr. Sanjay Gupta	0.15	Till December 2023

Research publications:

Swami Rama Himalayan University (SRHU) actively contributes to Sustainable Development Goal 14 (SDG 14) through impactful research publications that address the preservation of aquatic ecosystems and the sustainable management of marine resources. SRHU researchers publish in renowned national and international journals, covering key areas such as marine pollution, microplastic contamination, aquatic biodiversity, and sustainable fisheries management. These publications delve into the effects of climate change on marine ecosystems, innovative strategies for habitat restoration, and advancements in water quality monitoring. Additionally, they highlight community-driven approaches and provide policy recommendations to safeguard marine life and enhance coastal resilience. Through the generation and dissemination of evidence-based insights, SRHU strengthens its commitment to promoting sustainable aquatic ecosystems and advancing global sustainability objectives. ([Scopus - Swami Rama Himalayan University](#)).

Joshi, P., Bhatt, A., Aggarwal, G. Fishers 4.0: Revolutionizing Contemporary Fisheries Management through Industry 4.0 Integration. Proceedings - 2024 International Conference on Healthcare Innovations, Software and Engineering Technologies, HISET 2024, 2024



Singh, V., Prasad, M., Aswal, R.S., ...Sharma, T., Patel, N.K. An overview of renewable energy sources: technologies, applications and role of artificial intelligence. Computer Vision and Machine Intelligence for Renewable Energy Systems, 2024

Rani, A.T., Chauhan, M., Sharma, P.K., ...Mitra, D., Joshi, S. .Microbiological dimensions and functions in constructed wetlands: A review. Current Research in Microbial Sciences, 2024

Chandra, S., Joshi, N.. Probiotics in Aquaculture. Handbook of Aquatic Microbiology, 2024