JSS ACADEMY OF HIGHER EDUCATION & RESEARCH
(DEEMED TO BE UNIVERSITY) MYSURU

JSS Academy of Higher Education & Research

(Deemed to be University) (Accredited A+ Grade by NAAC)

COMPENDIUM ON SDG-14

LIFE BELOW WATER

Compendium of Activities in Achieving UN Sustainable Development Goals

2024-25

JSSDCH

Introduction

The SDGs aim to sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification. Enhancing conservation and the sustainableuse of ocean-based resources through international law will also help mitigate some of the challenges facing our oceans. By 2020, effectively regulate harvesting and end overfishing, illegal,unreported and unregulated fishing and destructive fishing practices and implement science- based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristicsBy 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

Life below water is defined as Conserve and sustainably uses the oceans, seas and marine resources for sustainable development. A large portion of our planets is covered by ocean and oceans play key role in supporting life on earth. It encompasses over 70% of the Earth's surface and holds the top position as the most bio-diverse ecosystem in the biosphere. It plays important role in balancing the climate, provides food and job.
Here are the 10 easy things that we execute to save our oceans which can be done at home, across town and on the ocean.

At home

- Use less water so that excess wastewater will not run on to the ocean
- Reduce non-toxic chemicals and dispose them in a proper way
- Recycle the wet waste as a fertilizer and cut down what we throw across town
- Avoid using plastic covers, carry go-green bags or reusable bags and shop prudently and try to pick sustainable seafood.
- Reduce Vehicle Pollution by taking walk to near places, using bicycle, shifting for eco-friendly vehicles like electric car and scooters, solar powered vehicles, carpool or taking local transportation.
- Consume Less Energy by choosing energy efficient light bulbs and don't overset your thermostat, switch off the lights and fans when not in use.

On the ocean

- Fish Responsibly: follow "catch and release" practices and keep more fish alive end overfishing, illegal, unreported, and unregulated fishing, and destructive fishing practices and refrain from introducing new subsidies.
- Practice Safe Boating Anchor in sandy areas far from coral and sea grasses. Adhere to "no wake" zones.
- Respect Habitat: Healthy habitat and survival go hand in hand. Treat with care. Do not disturb the Eco-system.
- Last but not the least volunteer for clean-ups at the beach and in your community. You can get involved in protecting your watershed too!

Marine biodiversity

JSSCPO

About SDG 14- LIFE BELOW WATER

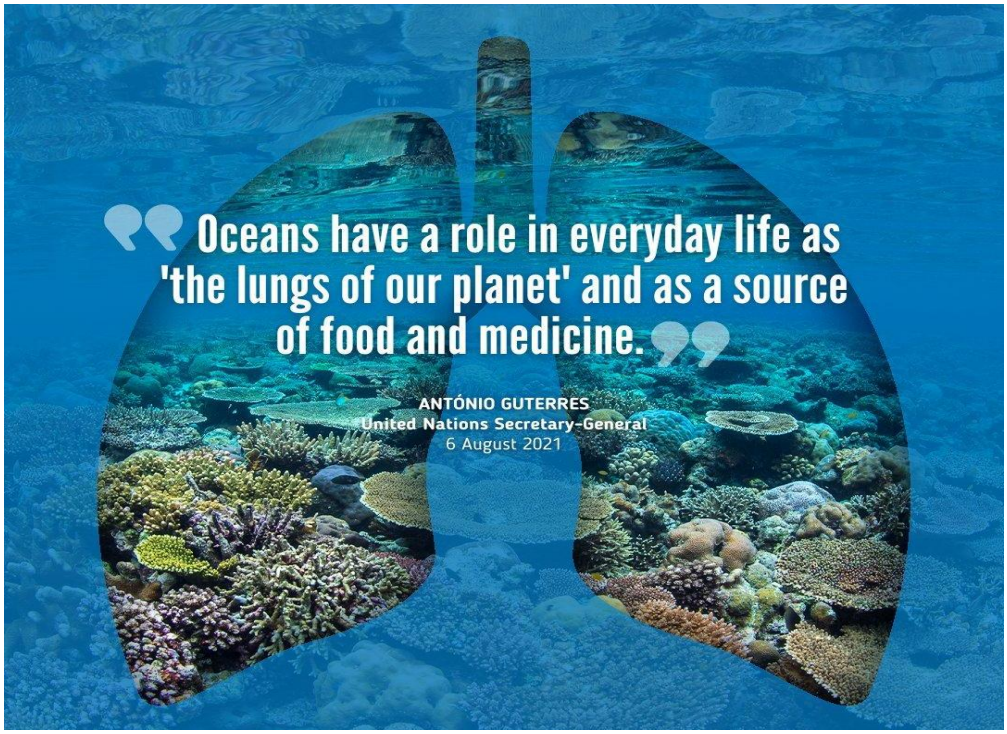
At JSS College of Pharmacy, Ooty, we recognize the critical importance of Sustainable Development Goal 14 (SDG 14), titled "Life Below Water," which aims to conserve and sustainably manage oceans, seas, and marine resources for sustainable development. Although situated in a hill station, our commitment extends to supporting this global goal by raising awareness and encouraging responsible stewardship of marine ecosystems.

SDG 14 includes ten targets to be accomplished by 2030, with the first seven focusing on outcomes such as reducing marine pollution, protecting and restoring aquatic ecosystems, addressing ocean acidification, promoting sustainable fishing, conserving coastal and marine areas, eliminating harmful fishing subsidies, and maximizing economic benefits from sustainable marine resource use. The remaining three targets emphasize implementation strategies, including enhancing scientific knowledge, supporting small-scale fishers, and enforcing international maritime laws. We also acknowledge the significance of reducing marine plastic pollution, as highlighted by indicator 14.1.1b.

While these challenges may seem distant from our hill station environment, we at JSS College of Pharmacy are actively engaged in promoting scientific research, education, and community awareness to contribute to marine conservation efforts.

As part of our commitment, we focus on fostering interdisciplinary approaches and sustainable practices that align with SDG 14's vision, recognizing the interconnectedness of

ecosystems and the importance of collective action for the preservation of our planet's water bodies.



PUBLICATIONS FOR LIFE BELOW WATER (SDG 14)

1. Saka A, Ramaswamy K, Shanmugam R, Priyanka L, Nagaprasad N, Ahmed S. Potential impact and consequences of particle size, shape, and surface area of functional marine biopolymers. In: Ahmed S, Soundararajan A, editors. Marine Biopolymers. 2025. p. 163-82. ISBN: 9780443156069.

OUR INITIATIVES FOR LIFE BELOW WATER (SDG 14)

Promoting water conservation within the college is an important and collective responsibility that everyone on campus should embrace. Water is an essential natural resource that supports life and enables countless activities at the college. By adopting efficient water-saving practices, we help protect this vital resource and move towards greater environmental sustainability.

A fundamental aspect of conserving water at college involves educating students, faculty, and staff about the importance of conserving water. Small actions—such as ensuring taps are closed properly, promptly repairing leaks, and reporting any water wastage—can make a substantial difference in reducing overall water usage.

As a pharmacy college, few of the major indicators that is implemented to contribute towards SDG 14 are:

- Sustainable Campus Practices to end pollution in water

- Integrate marine conservation and sustainability topics into the curriculum
- Organize awareness campaigns and events to promote on water conservation, plastic pollution, and the importance of water bodies for human well-being

POLICIES

JSS Academy of Higher Education and Research has well-crafted policies on smart campus, plastics, and campus waste disposal. Smart campus theme is adopted and realigned with sustainable development goals of UN.JSS AHER is committed to protecting the environment by minimizing the use of plastic in the campus. JSS AHER follows Central Pollution Control Board and Karnataka State Pollution Control Board guideline for campus waste disposal.

WATER UTILITY IN CAMPUS

- Main uses of water in the campus: Drinking, Laboratory, Canteen, Garden, Cleaning, Toilets, Bathrooms, Hostels, Guest house, Washing, Office uses.
- Sources of water: Municipality (30,000 L/day) and purchase from private agencies (60,000 L/day)
- Water storage: Sump (2 numbers of 10,000 L each) and Overhead tank – OHT (1 number of 1,00,000 L)
- Quantity of water pumped every day, from sump to overhead tank: ~80,000 L
- No. of water taps on campus:Common areas – 19, Guest House – 132, Boy's hostel – 148, Girl's hostel –174, Auditorium – 7, College block – 12
- Number of water taps and usage in canteen: Canteen – 2Nos, Amount of water used – 300 L/day
- No. of water taps in laboratories: 127 and water used is ~ 2000 L/day
- Number of RO units: 04
- Number of toilets on campus: Guest house – 21, boy's hostel – 70, girl's hostel – 74, College – 24, and Urinals – 12 Nos
- Quantity of water used in hostel: Boys' Hostel ~ 42,000 L/day and Girls Hostel ~ 50,000 L/day
- Quantity of water used for cleaning the vehicles of the Institute: 100 L/week

Water storage tanks are cleaned atleast once in six months and as and when required in between. Water distribution system is regularly monitored and maintained by in-house maintenance staff. No persistent water leakage has been reported. The staffs are aware that leaking taps should be immediately replaced to avoid wastage of water. Minor leakages are

sorted out immediately by the in-house plumber. College is equipped with water saving fixtures in taps wherever required and urinals tap automation.

Drinking water:

Reverse Osmosis purifying units are available to cater to the drinking water needs of students, staff and visitors on campus.. Sign boards are placed in prominent locations creating awareness on water conservation and its importance. Drip/sprinkler irrigation is adopted to water the garden/landscape. The college regularly conducts activities to spread awareness and educate the staff and students on water conservation activities.Drinking water is tested for compliance with the drinking water standards and found to be safe.

It is suggested to regularly test the RO water quality to ensure its potability. Also, reject water from RO unit could be directed to the garden area to be used to water plants and lawn

Rain Water Harvesting Implementation

Campus has rooftop rainwater collecting facility which collects rain water and stored in two tanks of 25,000 L capacity each. Additionally, the college harvests rainwater, which is be utilized for non-potable purposes such as irrigation and flushing toilets.

Being so far in Land and on hill station, Life below water is restricted. However, the college contributes to the conservation of water at every possible way. The regular water testing is performed in Department of Pharmaceutical Biotechnology of our college and the report is generated and based on that the necessary action is taken if the samples are found contaminated.

RO water facility in the academic and residential areas along with in the premises of hostels is available.

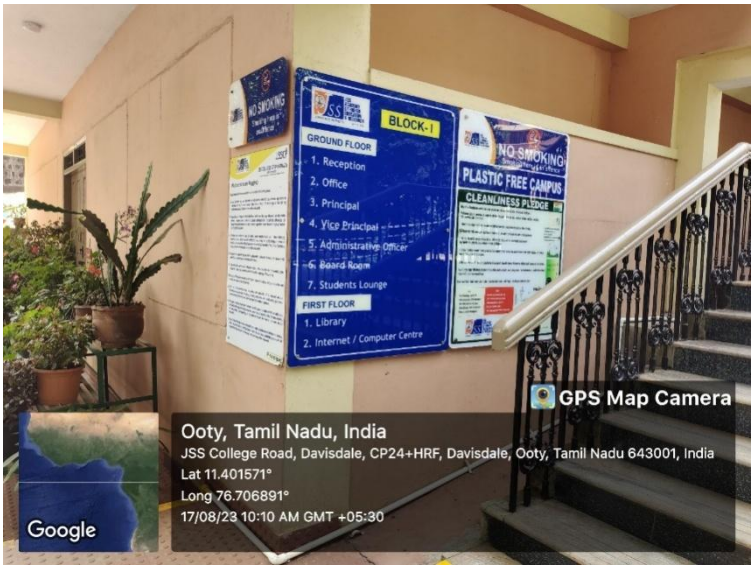
Installing water-efficient fixtures, such as low-flow faucets and toilets, can also contribute to water savings on a daily basis. Low water release taps are installed in the Campus Hostel facilities.

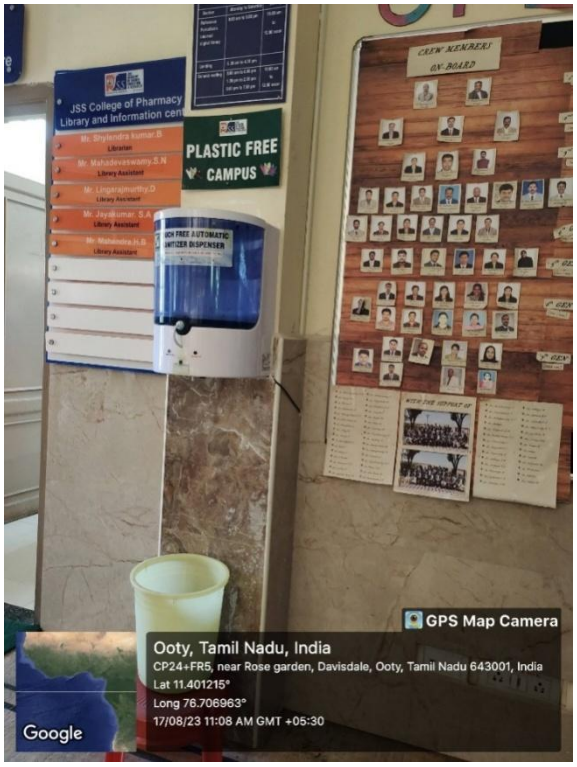
Plastic Waste Management

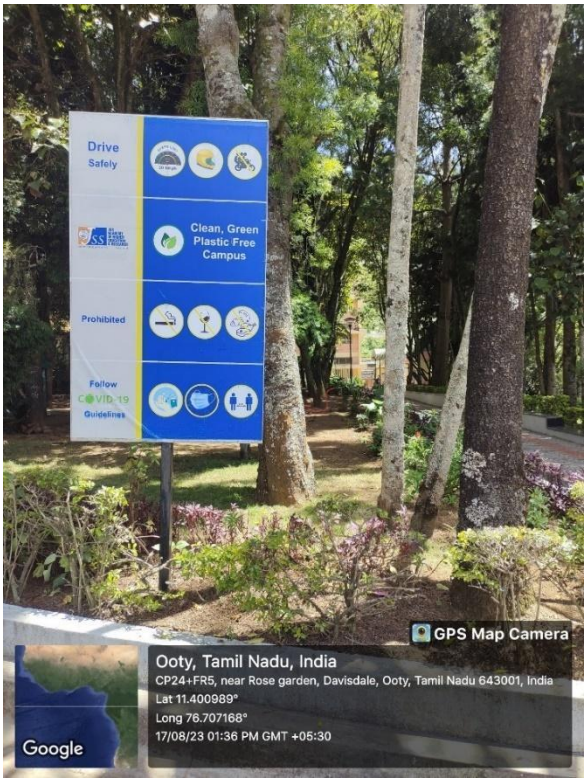
Managing the waste in a smarter ways is the most important aspect in any organization. For this the existing management for the waste we have Bio-waste management, initiative of plastic free campus with no plastic bottles, Rain Water harvesting management for the reduction of water waste to save more water. Paper shredder in office to cut short the storage of waste papers. Mechanical Chimneys, Fume hoods for chemical reactions and Bio-safety cabinets (Class II type A/B3).

Furthermore, in the future educational campaigns and workshops can be organized to educate the college community about water conservation techniques and the significance of water stewardship. Involving students in practical projects, such as maintaining a water-efficient garden or creating awareness posters, can foster a sense of responsibility towards water conservation.

By coming together as a united college community, we can take small yet impactful steps towards water conservation. Implementing these measures not only helps us become more environmentally conscious but also sets an example for others to follow. Ultimately, our collective efforts in water conservation will contribute to a sustainable future and a greener campus for generations to come.







Plastic free campus of JSS College of Pharmacy, Ooty

SLS, Mysuru

1. LIFE BELOW WATER (SDG 14)

S.No	Parameter	Answer	Evidence /URL Link/Report in PDF /word format
14.1	**Research on life below water** Research supporting SDG 14: Research on Life below Water (List of publications reflecting the research towards Life below Water in Vancouver style)		
14.2 Supporting aquatic ecosystems through education.			
14.2.1	Does your College & university as a body offer educational Programmes on fresh-water ecosystems (water irrigation practices, water management/conservation) for local or national communities? **Fresh-water ecosystems** **community outreach**	Explain and attach evidence /documents supporting your explanation	No
14.2.2	Does your College & university as a body offer educational programme / outreach for local or national communities on sustainable management of fisheries, aquaculture and tourism? **Sustainable fisheries** **community outreach**	Yes Department of Environmental Science offers Course on Eco Tourism	https://jssuni.edu.in/jssaher/department-of-environmental-sciences/department-of-environmental-sciences-home.html

14.2.3	Does your College & university as a body offer educational outreach activities for local or national communities to raise awareness about overfishing, illegal, unreported and unregulated fishing and destructive fishing practices? **Overfishing** **community outreach**	Explain and attach evidence /documents supporting your explanation	No
14.3 Supporting aquatic ecosystems through action			
14.3.1	Does your College & university as a body support and/or organize events aimed to promote conservation and sustainable utilization of the oceans, seas, lakes, rivers and marine resources? **Conservation and sustainable utilization of the oceans (events)**	Explain and attach evidence /documents supporting your explanation	No
14.3.2	Does your College & university as a body have a policy to ensure that food on campus that comes from aquatic ecosystems is sustainably harvested? **Food from aquatic ecosystems (policies)**	Explain and attach evidence /documents supporting your explanation	No
	Institutional Policy created (Year)?		

	Institutional Policy reviewed (Year)?		
14.3.3	Does your College & university as a body work directly (research and/or engagement with industries) to maintain and extend existing ecosystems and their biodiversity, of both plants and animals, especially ecosystems under threat? **Maintain ecosystems and their biodiversity (direct work)**	Explain and attach evidence /documents supporting your explanation	No
14.3.4	Does your College & university as a body work directly (research and/or engagement with industries) on technologies or practices that enable marine industry to minimize or prevent damage to aquatic ecosystems? **Technologies towards aquatic ecosystem damage prevention (direct work)**	Explain and attach evidence /documents supporting your explanation	No
14.4 Water sensitive waste disposal			
14.4.1	Does your College & university as a body have water quality standards and guidelines for water discharges (to uphold water quality in order to protect ecosystems, wildlife, and human health and welfare, etc.)?	Yes	

	Water discharge guidelines and standards		
14.4.2	Does your College & university as a body have an action plan in place to reduce plastic waste on campus? **Action plan to reducing plastic waste**	University as a body have an action plan Srirangapatna, a historical town in Karnataka known for its rich cultural heritage and natural beauty, was the focus of a cleaning drive initiated by the students and faculty of the Department of Environmental Science, JSS AHER Mysore on 03/05/2024. The Clean drive was organized by Department of Environmental Science, JSS AHER, Mysore and EMPRI Govt. of Karnataka. The participants are Students and Faculty Members of the Department of Environmental Science JSS AHER Mysore. Around 48 students were participated. The initiative aimed to address the pressing issues of litter and pollution affecting the area, particularly around the tourist-heavy spots and the riverbanks. The main Objectives of this drive are • To clean up litter and debris in designated areas of Srirangapatna, enhancing the environmental aesthetics and health. • To raise awareness among locals and tourists about the importance of maintaining clean surroundings. • To instill a sense of	https://jssaherstoragenew.blob.core.windows.net/jssuudstorage/udpdocs/home-page-sdg-minimising-the-use-of-plastic-policy.pdf https://jssuni.edu.in/jssaher/activities-and-events/ActivityAndEventDetail.aspx?NOTICESID=6400

		responsibility towards the environment among students and participants.	
14.4.3	Does your College & university as a body have a policy on preventing and reducing marine pollution of all kinds, in particular from land-based activities*?* **Reducing marine pollution (policy)**	Explain and attach evidence /documents supporting your explanation	
	Institutional Policy created (Year)?		
	Institutional Policy reviewed (Year)?		
14.5 Maintaining a local ecosystem			
14.5.1	Does your College & university as a body have a plan to minimize physical, chemical and/or biological alterations of related aquatic ecosystems? **Minimizing alteration of aquatic ecosystems (plan)**	Explain and attach evidence /documents supporting your explanation	
14.5.2	Does your College & university as a body monitor the health of aquatic ecosystems? **Monitoring the health of aquatic ecosystems**	Explain and attach evidence /documents supporting your explanation	
14.5.3	Does your College & university as a body develop and support programs and incentives that encourage and maintain good aquatic stewardship practices?	Explain and attach evidence /documents supporting your explanation	

	Programs towards good aquatic stewardship practices		
14.5.4	Does your College & university as a body collaborate with the local community, e.g. through partnerships, in efforts to maintain shared aquatic ecosystems? **Collaboration for shared aquatic ecosystems**	Explain and attach evidence /documents supporting your explanation	
14.5.5	Does your College & university as a body have implemented a watershed management strategy based on location specific diversity of aquatic species? **Watershed management strategy**	Explain and attach evidence /documents supporting your explanation	

SLS, Ooty

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	management of fisheries, aquaculture and tourism? **Sustainable fisheries** **community outreach**		
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	utilization of the oceans (events)		
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	Institutional Policy reviewed (Year)?		
14.3.3	Does your College & university as a body work directly (research and/or engagement with industries) to maintain and extend existing ecosystems and their biodiversity, of both plants and animals, especially ecosystems under threat? **Maintain ecosystems and their biodiversity (direct work)**	NIL	
14.3.4	Does your College & university as a body work directly (research and/or engagement with industries) on	NIL	

	technologies or practices that enable marine industry to minimize or prevent damage to aquatic ecosystems? **Technologies towards aquatic ecosystem damage prevention (direct work)**		
14.4 Water sensitive waste disposal			
14.4.1	Does your College & university as a body have water quality standards and guidelines for water discharges (to uphold water quality in order to protect ecosystems, wildlife, and human health and welfare, etc.)? **Water discharge guidelines and standards**	NIL	
14.4.2	Does your College & university as a body have an action plan in place to reduce plastic waste on campus? **Action plan to reducing plastic waste**	Yes, Plastic Policy is given.	https://jssaherdatalake.blob.core.windows.net/quality/sls-ooty-sdg-12-2-4-and-14-4-2-plastic-policy.pdf

14.4.3	Does your College & university as a body have a policy on preventing and reducing marine pollution of all kinds, in particular from land-based activities*?* **Reducing marine pollution (policy)**	NIL	
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14.5.5	Does your College & university as a body have implemented a watershed management strategy based on location specific diversity of aquatic species? **Watershed management strategy**	NIL	