SUSTAINABLE DEVELOPMENT GOAL 11

Sustainable Cities and Communities

SDG 11 Progress Report 2025



SHOOLINI UNIVERSITY

Shoolini University of Biotechnology and Management Sciences

Bajhol, Solan, Himachal Pradesh-173229

INTRODUCTION

Introduction

Sustainable Development Goal 11 (SDG 11) aims to "make cities and human settlements inclusive, safe, resilient, and sustainable." It emphasizes the need for environmentally responsible infrastructure, efficient resource management, and community-oriented urban planning to ensure long-term sustainability and quality of life for all. In alignment with this global vision, Shoolini University is deeply committed to developing a green, sustainable, and socially responsible campus that serves as a living model of environmental stewardship and community well-being. The University's sustainability philosophy is embedded within its academic and operational framework, reflecting a holistic approach to infrastructure, energy efficiency, waste reduction, and resource optimization.

Located in the scenic foothills of Solan, Himachal Pradesh, Shoolini University leverages its Himalayan setting to promote eco-conscious campus design and operations. The institution integrates sustainable building materials, efficient waste management systems, renewable energy sources, and water conservation techniques that align with regional ecology. Its mountain ecosystem inspires research and innovation in environmental science, biodiversity preservation, and climate resilience, positioning the University as a leading example of sustainable higher education in India's hill regions.

The University's commitment to environmental sustainability is institutionalized through its Green Campus Policy, Sustainability Cell, and the Centre for Environment, Energy and Sustainability (CEEST). These entities work collaboratively to plan, implement, and monitor initiatives related to green infrastructure, energy optimization, and environmental awareness. Collectively, they ensure that sustainability is not only a guiding principle but also a measurable outcome in Shoolini's academic, operational, and community outreach activities. Through its sustainable campus initiatives, eco-friendly infrastructure, and collaborative community projects, Shoolini University continues to advance the principles of SDG 11: Sustainable Cities and Communities, demonstrating how higher education institutions can serve as catalysts for environmental and societal transformation.

SDG 11 at a Glance

400,000+ kWh
generated annually by rooftop solar across academic blocks, hostels and administrative buildings (1.2)

50%
solar dependency targeted by 2026 through expanded photovoltaic and battery storage (1.2)

2028
target year for Net Zero Emissions, supported by solar-charged electric carts (1.6)

SECTION 1

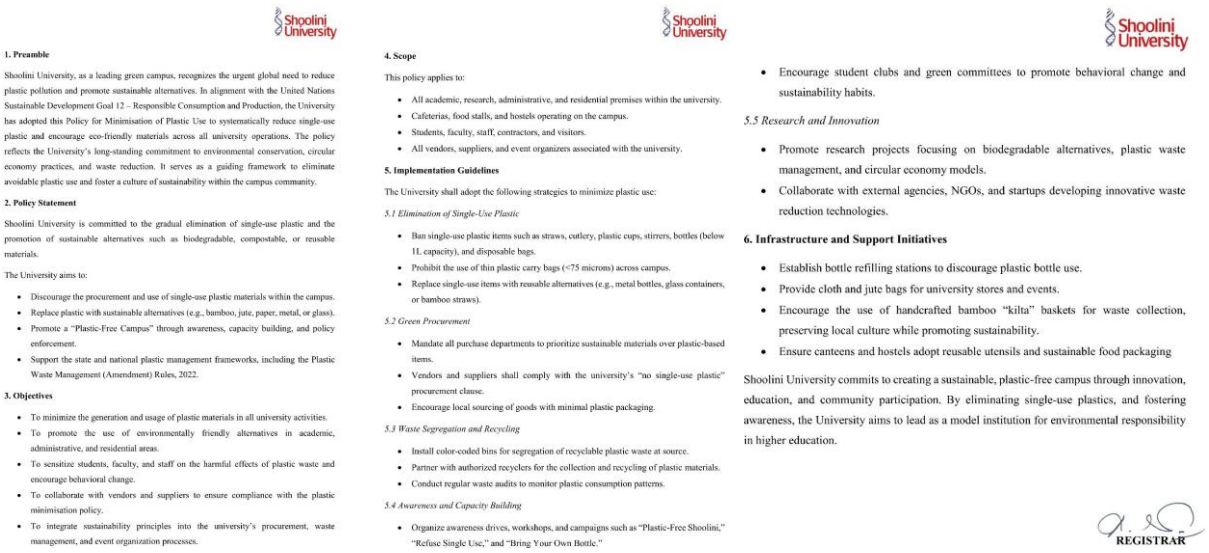
1. Green Infrastructure and Campus Sustainability

Purpose: *Highlight campus planning and environmental design initiatives.*

Shoolini University integrates sustainability into every aspect of its campus planning and infrastructure development, aligning with SDG 11: Sustainable Cities and Communities. Guided by the Green Campus Policy and Zero Waste Campus Initiative, the University strives to maintain a balance between technological progress and ecological preservation through innovative, energy-efficient, and environmentally responsible practices.

1.1 Green Campus Policy and Reduce Waste Initiative

The University operates under a comprehensive Green Campus Policy that promotes eco-friendly construction, waste reduction, and sustainable resource use. The Reduce Waste Initiative encourages waste segregation, recycling, and composting to minimize landfill contribution.



Shoolini University

1. Preamble

Shoolini University, as a leading green campus, recognizes the urgent global need to reduce plastic pollution and promote sustainable alternatives. In alignment with the United Nations Sustainable Development Goal 12 – Responsible Consumption and Production, the University has adopted this Policy for Minimisation of Plastic Use to systematically reduce single-use plastic and encourage eco-friendly materials across all university operations. The policy reflects the University's long-standing commitment to environmental conservation, circular economy practices, and waste reduction. It serves as a guiding framework to eliminate avoidable plastic use and foster a culture of sustainability within the campus community.

2. Policy Statement

Shoolini University is committed to the gradual elimination of single-use plastic and the promotion of sustainable alternatives such as biodegradable, compostable, or reusable materials.

The University aims to:

- Discourage the procurement and use of single-use plastic materials within the campus.
- Replace plastic with sustainable alternatives (e.g., bamboo, jute, paper, metal, or glass).
- Promote a "Plastic-Free Campus" through awareness, capacity building, and policy enforcement.
- Support the state and national plastic management frameworks, including the Plastic Waste Management (Amendment) Rules, 2022.

3. Objectives

- To minimize the generation and usage of plastic materials in all university activities.
- To promote the use of environmentally friendly alternatives in academic, administrative, and residential areas.
- To sensitize students, faculty, and staff on the harmful effects of plastic waste and encourage behavioral change.
- To collaborate with vendors and suppliers to ensure compliance with the plastic minimisation policy.
- To integrate sustainability principles into the university's procurement, waste management, and event organization processes.

Shoolini University

4. Scope

This policy applies to:

- All academic, research, administrative, and residential premises within the university.
- Cafeterias, food stalls, and hostels operating on the campus.
- Students, faculty, staff, contractors, and visitors.
- All vendors, suppliers, and event organizers associated with the university.

5. Implementation Guidelines

The University shall adopt the following strategies to minimize plastic use:

5.1 Elimination of Single-Use Plastic

- Ban single-use plastic items such as straws, cutlery, plastic cups, stirrers, bottles (below 1L capacity), and disposable bags.
- Prohibit the use of thin plastic carry bags (<75 microns) across campus.
- Replace single-use items with reusable alternatives (e.g., metal bottles, glass containers, or bamboo straws).

5.2 Green Procurement

- Mandate all purchase departments to prioritize sustainable materials over plastic-based items.
- Vendors and suppliers shall comply with the university's "no single-use plastic" procurement clause.
- Encourage local sourcing of goods with minimal plastic packaging.

5.3 Waste Segregation and Recycling

- Install color-coded bins for segregation of recyclable plastic waste at source.
- Partner with authorized recyclers for the collection and recycling of plastic materials.
- Conduct regular waste audits to monitor plastic consumption patterns.

5.4 Awareness and Capacity Building

- Organize awareness drives, workshops, and campaigns such as "Plastic-Free Shoolini," "Refuse Single Use," and "Bring Your Own Bottle."

Shoolini University

- Encourage student clubs and green committees to promote behavioral change and sustainability habits.

5.5 Research and Innovation

- Promote research projects focusing on biodegradable alternatives, plastic waste management, and circular economy models.
- Collaborate with external agencies, NGOs, and startups developing innovative waste reduction technologies.

6. Infrastructure and Support Initiatives

- Establish bottle refilling stations to discourage plastic bottle use.
- Provide cloth and jute bags for university stores and events.
- Encourage the use of handcrafted bamboo "kilta" baskets for waste collection, preserving local culture while promoting sustainability.
- Ensure canteens and hostels adopt reusable utensils and sustainable food packaging

Shoolini University commits to creating a sustainable, plastic-free campus through innovation, education, and community participation. By eliminating single-use plastics, and fostering awareness, the University aims to lead as a model institution for environmental responsibility in higher education.

REGISTRAR

Figure 1. Shoolini University Policy for Minimisation of Plastic Use (pages 1–3).

1.2 Solar Energy and Resource Efficiency

A significant portion of the campus's power requirements is met through solar energy systems, reducing dependence on non-renewable sources. Additionally, LED-based lighting systems have replaced traditional fixtures to enhance energy efficiency and reduce carbon emissions. The University currently operates an extensive rooftop solar energy system spread across academic blocks, hostels, and administrative buildings, generating over 400,000 kWh annually. This green energy offsets a significant portion of the University's electricity demand, directly reducing carbon emissions and operational costs. Plans are underway to expand the solar infrastructure with advanced high-efficiency photovoltaic panels and battery storage systems, targeting 50% solar dependency by 2026. The integration of smart monitoring systems ensures optimal performance and real-time tracking of solar generation, positioning Shoolini as a leader in sustainable campus energy management.



Figure 2. Rooftop solar panel system over the walkway of the girls' hostel.

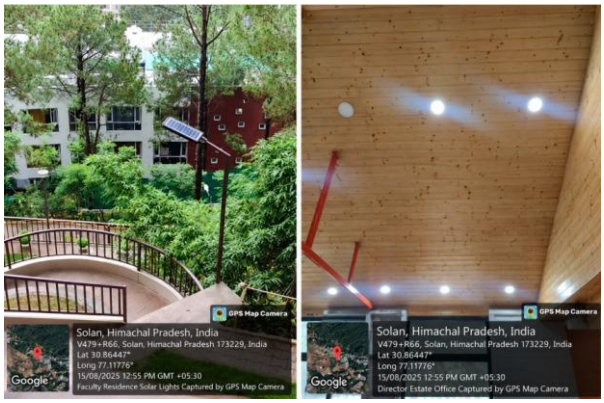


Figure 3. Energy-efficient LED lights installed in all buildings and pathways of Shoolini University.

1.3 Rainwater Harvesting and Water Management

Rainwater harvesting structures and groundwater recharge pits are installed across academic blocks and hostels, ensuring water conservation and sustainable usage throughout the year.

Rainwater harvesting: Rooftop structures and dedicated collection systems capture rainwater, which is stored in high-capacity tanks for irrigation and construction purposes.



Figure 4. Rooftop rainwater harvesting structures at A-Block.

Groundwater recharge: Borewell extraction is balanced with recharge pits and permeable campus surfaces, allowing rainwater to replenish aquifers naturally.

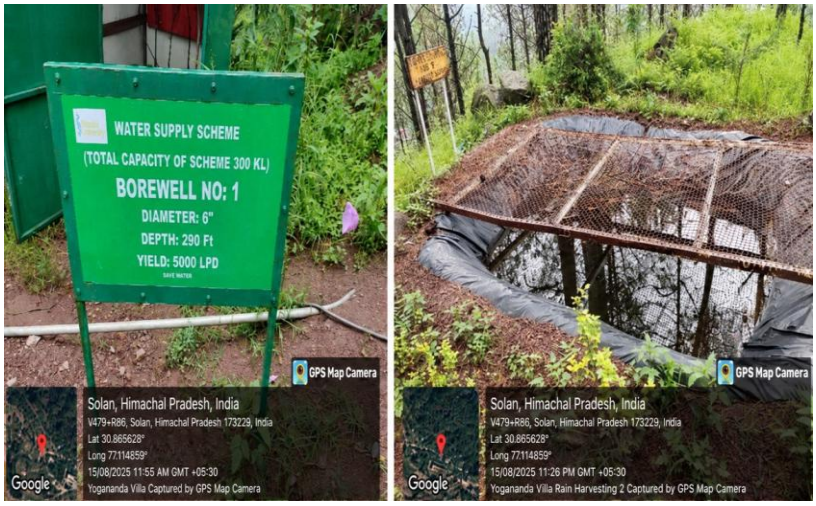


Figure 5. Borewell and recharge pits in Shoolini University.



Figure 6. Rainwater harvesting pond in the local forest area.

1.4 Energy-Efficient Buildings and Green Architecture

All new campus buildings follow energy-efficient architectural designs featuring green roofs, vertical gardens, and natural lighting systems. These designs optimize energy use and promote environmental comfort while maintaining the campus's scenic harmony with the Himalayan landscape.



Figure 7. Use of large windows for increased solar gain and increased use of natural lighting.



Figure 8. Plants and trees near the library.



Figure 9. Landscaped plants near the VC parking area.

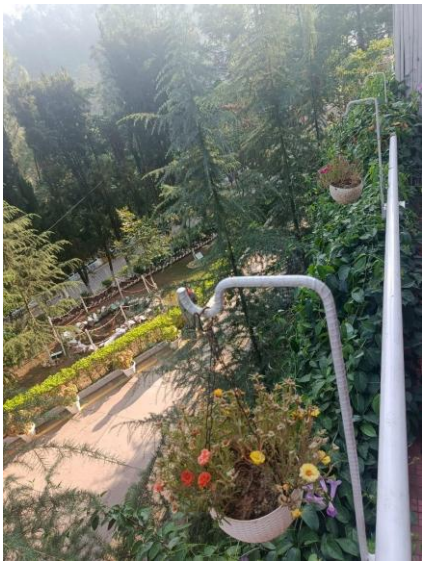


Figure 10. Landscaped plants near A-Block.

1.5 Tree Plantation and Biodiversity Conservation

Shoolini University places strong emphasis on enhancing campus greenery and preserving local biodiversity. The University regularly organizes tree plantation drives involving students, faculty, and community members to promote environmental awareness and carbon sequestration. Its well-maintained green zones and landscaped gardens function as natural carbon sinks while supporting a diverse range of native plant and animal species. These initiatives not only beautify the campus but also contribute to ecological stability, soil conservation, and air quality improvement, reflecting Shoolini's commitment to sustainable campus ecology under SDG 11: Sustainable Cities and Communities

Mega Plantation Drive – An effort to increase green cover

Shoolini University organized a two-day plantation drive on October 10-11, 2025, at Shoolini Village and Yogananda Villa, witnessing enthusiastic participation from students across all departments. The initiative aimed to enhance biodiversity and promote long-term environmental sustainability, with over 300 saplings of native tree species planted during the event.

The plantation drive was designed not only to increase green cover but also to educate students on sustainable practices. Participants learned about the importance of using organic fertilizers and proper tree care techniques, reinforcing the significance of environmentally friendly methods in nurturing the planted saplings. This educational component aimed to empower students with knowledge that extends beyond the event, encouraging them to adopt sustainable practices in their daily lives.

By focusing on native species, the drive aimed to ensure a positive impact on the local ecosystem, promoting water conservation and improving soil health. The initiative underscored

Shoolini University's commitment to eco-friendly practices and its role in mitigating climate change and reducing the carbon footprint.

The event fostered a sense of environmental responsibility among participants, engaging students as key contributors to a greener, more sustainable future. Overall, the plantation drive was a successful demonstration of collective action towards environmental stewardship, reinforcing the university's mission to promote sustainability and community involvement.



Figure 11. Guests planting and watering the saplings.



Figure 12. Plantation Drive: Planting Saplings to Promote a Greener and More Sustainable Campus..

1.6 E-Vehicles and Bicycle-Friendly Mobility

Shoolini University has significantly reduced its dependence on fossil fuels by introducing electric carts for intra-campus transportation. These eco-friendly vehicles provide safe, quiet, and emission-free mobility for students, faculty, staff, and visitors across the hilly terrain of the campus. By replacing conventional petrol or diesel-based vehicles with battery-operated electric carts, the University has effectively minimized carbon dioxide emissions and promoted sustainable mobility practices. The initiative not only supports the University’s goal of achieving Net Zero Emissions by 2028 but also enhances accessibility while maintaining a clean and healthy environment. The electric carts are charged using renewable solar power generated on campus, further aligning the transportation system with Shoolini’s commitment to green energy and low-carbon operations. Through this transition, the University continues to demonstrate leadership in integrating clean transportation technologies within higher education institutions, setting a benchmark for environmentally conscious campus management.



Figure 13. Electric carts for transportation on the university campus.

Through these sustainable infrastructure and green design initiatives, Shoolini University exemplifies a model eco-campus—one that seamlessly integrates innovation, environmental responsibility, and community well-being—upholding the vision of SDG 11: Sustainable Cities and Communities.

SECTION 2

2. Waste Management and Circular Economy

Shoolini University actively promotes sustainable consumption and efficient waste management practices in alignment with the objectives of SDG 11: Sustainable Cities and Communities. Guided by its Green Campus Policy and commitment to environmental responsibility, the University has established a comprehensive waste management and circular economy framework aimed at minimizing waste generation, encouraging recycling, and promoting resource recovery.

2.1 Solid Waste Management System

The University has implemented an organized Solid Waste Management System that ensures segregation of waste at the source into biodegradable, recyclable, and non-recyclable categories. Designated collection points across the campus enable efficient waste sorting and disposal in an environmentally responsible manner.

Ban on Single-Use and Disposable Products

As a pioneering and eco-friendly alternative, the University has introduced handcrafted bamboo wooden kiltas (traditional collection baskets) in place of conventional plastic dustbins for waste collection. Strategically placed across academic buildings, hostels, and public areas, these sustainable kiltas have become a hallmark of Shoolini University's waste management system. The initiative not only minimizes the use of plastic and other disposable materials but also empowers local artisans and rural communities by promoting traditional bamboo craftsmanship. Made from renewable and biodegradable materials, these baskets are durable, environmentally safe, and culturally meaningful. Furthermore, the ban on single-use and disposable products extends to all university events, meetings, and student activities. Event organizers are encouraged to adopt reusable utensils, steel bottles, and cloth-based decorations to ensure a zero-waste event culture. Through these sustained and innovative efforts, Shoolini University continues to reaffirm its commitment to a plastic-free, zero-disposable, and environmentally responsible campus, setting a benchmark for sustainable practices in higher education institutions.



Figure 14. Labelled sustainable bamboo kiltas in outdoor spaces for the disposal of waste.

2.2 Waste-to-Compost and Vermicomposting Units

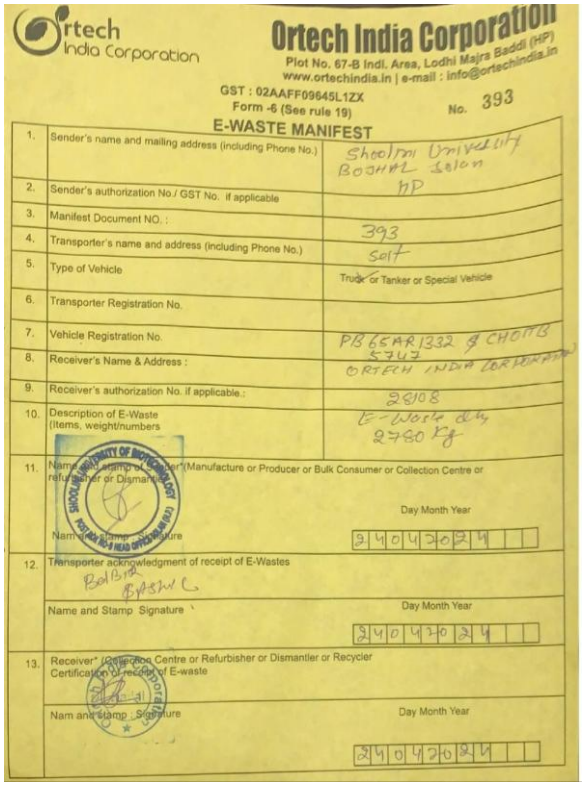
To manage organic waste sustainably, waste-to-compost and vermicomposting units have been established on campus. Organic waste from hostels, cafeterias, and gardens is converted into nutrient-rich compost used for maintaining the University's green spaces, thereby promoting a circular waste model.



Figure 15. Biogas system installed in the agricultural farm at Shoolini University.

2.3 E-Waste Recycling Drives

The University conducts regular e-waste collection and recycling drives in collaboration with authorized vendors, ensuring safe and compliant disposal of obsolete electronic equipment. These initiatives help reduce hazardous waste while promoting responsible technological use and recycling culture among students and staff.



Ortech India Corporation

Plot No. 67-B Indl. Area, Lodhi Majra Baddi (HP)
www.ortechindia.in | e-mail : info@ortechindia.in

GST : 02AAFF09645L1ZX
Form -6 (See rule 19) No. 393

E-WASTE MANIFEST

1.	Sender's name and mailing address (including Phone No.)	Shoolini University Boohal Solan HP
2.	Sender's authorization No./ GST No. if applicable	
3.	Manifest Document NO. :	393
4.	Transporter's name and address (including Phone No.)	Self
5.	Type of Vehicle	Truck or Tanker or Special Vehicle
6.	Transporter Registration No.	
7.	Vehicle Registration No.	PB65AR1332 & CH01FB 5743
8.	Receiver's Name & Address :	ORTECH INDIA CORPORATION
9.	Receiver's authorization No. if applicable :	29108
10.	Description of E-Waste (Items, weight/numbers	E-Waste dt 4 2780 Kg
11.	Name and signature of Generator (Manufacture or Producer or Bulk Consumer or Collection Centre or refurbisher or Dismantler	Day Month Year 24/04/24
12.	Transporter acknowledgment of receipt of E-Wastes	Name and Stamp Signature — Day Month Year 24/04/24
13.	Receiver (Collection Centre or Refurbisher or Dismantler or Recycler Certification of receipt of E-waste	Name and Stamp Signature — Day Month Year 24/04/24

Figure 16. E-waste manifest issued for the disposal of electronic waste through an authorised recycler.

2.4 Paperless Operations and Digital Systems

Shoolini University promotes paperless operations through the adoption of digital documentation, e-office systems, and cloud-based communication platforms. Administrative and academic processes, including attendance, submissions, and reporting, are managed digitally to reduce paper consumption and support environmental sustainability.

2.5 Plastic Waste Reduction Campaigns

The University regularly organizes plastic waste reduction campaigns, including the campus-wide movement "Say No to Single-Use Plastics." These awareness drives engage students and staff in adopting eco-friendly alternatives, supporting India's national mission for plastic-free institutions.

Bisleri's Bottles for Change: Campus Cleaning Drive at Shoolini University

Date	22nd April 2025
SDGs aligned	SDG 13: Climate Action & SDG 11: Sustainable Cities and Communities
Partner	Bisleri's "Bottles for Change" initiative

On this special Earth Day, Shoolini University joined hands with Bisleri's "Bottles for Change" initiative to take a bold step towards a cleaner, greener campus. The drive was a powerful reminder that small actions, when taken together, can spark big changes.

"Bottles for Change" is more than just a cleanup—it's a movement that transforms how we think about plastic waste. Instead of discarding PET bottles and plastic waste, the initiative encourages us to collect, segregate, and recycle responsibly, turning what was once trash into valuable resources. This circular approach to plastic is vital for protecting our environment and reducing pollution.

On April 22, a dedicated group of students and volunteers scoured the campus grounds, collecting plastic waste with energy and enthusiasm. Each bottle picked up was a step towards breaking the cycle of plastic pollution and building awareness about sustainable living.

The drive not only cleared the campus but also instilled a deep sense of responsibility and environmental consciousness in every participant. It was a beautiful collaboration of youth passion, community spirit, and corporate commitment, perfectly aligned with global efforts to promote responsible consumption and climate action.

As we walked through the campus, collecting plastic and sharing smiles, we became part of a larger story—one where every bottle collected is a bottle for change.



Figure 17. Students and volunteers at the Bottles for Change campus cleaning drive, 22 April 2025.

Roots of Change: Shoolini's Plantation and Cleaning Drive

Date	2nd October 2025
Venue	Surrounding Areas of Shoolini University Campus
SDGs aligned	SDG 13 – Climate Action | SDG 15 – Life on Land | SDG 11 – Sustainable Cities and Communities
Organised by	NSS, NCC and SFY (Shoolinians for You), as part of Daan Utsav 2025
No. of volunteers	170

As part of Daan Utsav 2025, a week dedicated to the spirit of giving and service, NSS, NCC, and SFY (Shoolinians for You) at Shoolini University organized a vibrant Plantation and

Cleaning Drive titled “Roots of Change.” The initiative embodied the values of care, compassion, and responsibility — reminding everyone that giving back to the Earth is one of the purest forms of contribution.

The day began with a tree plantation activity, where volunteers planted a diverse range of saplings around the campus and nearby areas. Each plant symbolized growth, hope, and the university’s vision for a greener tomorrow. Students pledged to nurture these saplings, ensuring that their act of giving would continue to flourish for years to come. The plantation drive reflected Shoolini’s long-term commitment to sustainability and environmental protection, while also fostering a sense of ownership among participants.

Following the plantation, volunteers actively participated in a cleaning drive, covering the roads and surroundings of the university. With gloves, eco-bags, and an unbreakable spirit, the teams collected plastic waste, cleaned pathways, and segregated recyclable materials. The coordinated efforts of NSS volunteers, NCC cadets, and SFY members made the drive efficient and impactful.

The event served as a living example of how collective action can lead to visible change. By combining plantation and cleanliness initiatives, the drive not only enhanced the aesthetic appeal of the campus but also strengthened awareness about sustainable living and responsible waste management.

Through this initiative, Shoolini University once again showcased its commitment to community service, environmental stewardship, and student engagement. The “Roots of Change” drive beautifully captured the essence of Daan Utsav — giving back selflessly, working together for a cleaner and greener future, and planting seeds of hope that will continue to grow with time.



Figure 18. Swachhta Hi Sewa cleaning and plantation drive on campus, 2 October 2025, with NSS volunteers.

Clean Today, Green Tomorrow – An Empathetic Cleaning Drive at Ashwini Khad

Date	22 November 2025
Venue	Ashwini Khad
SDGs aligned	SDG 6 – Clean Water and Sanitation | SDG 11 – Sustainable Cities and Communities | SDG 13 – Climate Action
Organised by	National Service Scheme (NSS)
No. of volunteers	40

On 22nd November, volunteers of the National Service Scheme (NSS) undertook a meaningful cleaning drive at Ashwini Khad, driven by a shared sense of responsibility toward nature and the local community. The initiative aimed not only to clean the area but also to foster empathy toward the environment by highlighting the impact of human actions on natural ecosystems.



Figure 19. NSS volunteers collecting waste at Ashwini Khad, 22 November 2025.

The volunteers actively engaged in the collection and segregation of waste, with a strong focus on removing plastic and other non-biodegradable materials that threaten water quality and harm aquatic life. As the drive progressed, participants observed firsthand how careless disposal of waste affects natural water bodies, reinforcing the importance of mindful and sustainable practices.

Beyond physical cleaning, the activity encouraged reflection and dialogue among volunteers about environmental degradation, water conservation, and the need for collective action. The drive served as a learning experience, reminding participants that protecting nature begins with awareness, care, and everyday choices. The shared effort strengthened teamwork and instilled a deeper sense of connection with the surroundings.

Local passersby and community members were also sensitized during the drive, as volunteers informally communicated the importance of maintaining cleanliness and respecting natural

spaces. This interaction helped extend the message beyond the activity itself, encouraging broader community participation in environmental stewardship.

The cleaning drive at Ashwini Khad stood as a heartfelt reminder that environmental care is an act of compassion—for nature, for communities, and for future generations. Through this initiative, NSS reaffirmed its commitment to sustainable development, civic responsibility, and youth-led action, demonstrating how empathy and service can come together to create lasting positive change.

SECTION 3

3. Water Conservation and Sustainable Resource Use

In alignment with Sustainable Development Goal 11 (Sustainable Cities and Communities) and the principles of SDG 12 (Responsible Consumption and Production), Shoolini University promotes sustainable water management through a combination of infrastructure innovation, awareness, and research-driven solutions. The University recognizes water as a critical natural resource and has implemented a range of conservation initiatives to ensure responsible utilization, recycling, and long-term sustainability.

3.1 Rainwater Harvesting Systems and Groundwater Recharge Pits

The University has installed multiple rainwater harvesting systems across its academic and residential buildings to capture and store rainwater efficiently. Collected water is channelled into groundwater recharge pits, helping replenish the local water table and maintain hydrological balance. These systems are integral to the campus's sustainable design, reducing dependence on external water sources.



Figure 20. Recharge pits in Shoolini University.

3.2 Wastewater Recycling Plant

A fully functional wastewater recycling and treatment plant operates within the campus to process greywater from hostels, laboratories, and cafeterias. The treated water is reused for landscape irrigation, gardening, and cleaning, significantly reducing freshwater consumption and ensuring a closed-loop water management cycle.

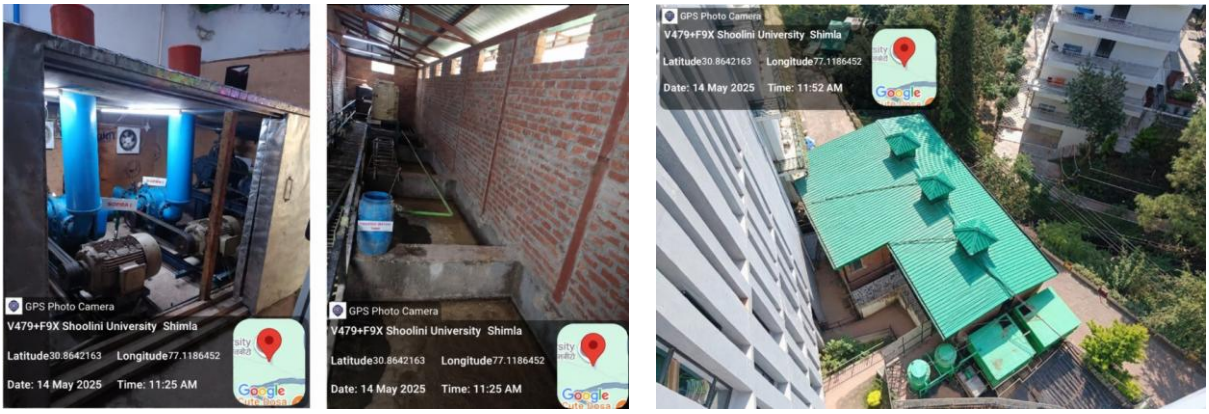


Figure 21. Sewage treatment plant at Shoolini University.

3.3 Research on Low-Cost Water Filtration Systems

Reflecting the University's interdisciplinary approach and innovation culture, faculty and students have undertaken research projects on affordable water filtration technologies, connecting with the innovation goals of SDG 9 (Industry, Innovation, and Infrastructure). These projects focus on designing low-cost, eco-friendly filtration models suitable for rural and underserved communities, thereby linking campus research with real-world sustainability impact.

SECTION 4

4. Community and Urban Partnership Projects

In alignment with the objectives of SDG 11: Sustainable Cities and Communities, Shoolini University actively engages in collaborative initiatives that promote environmental sustainability, social inclusion, and urban–rural development. Through strategic partnerships and community-driven programs, the University extends its impact beyond the campus, fostering awareness, capacity building, and sustainable practices in nearby regions.

4.1 Collaboration with Local Governance and Industry Partners

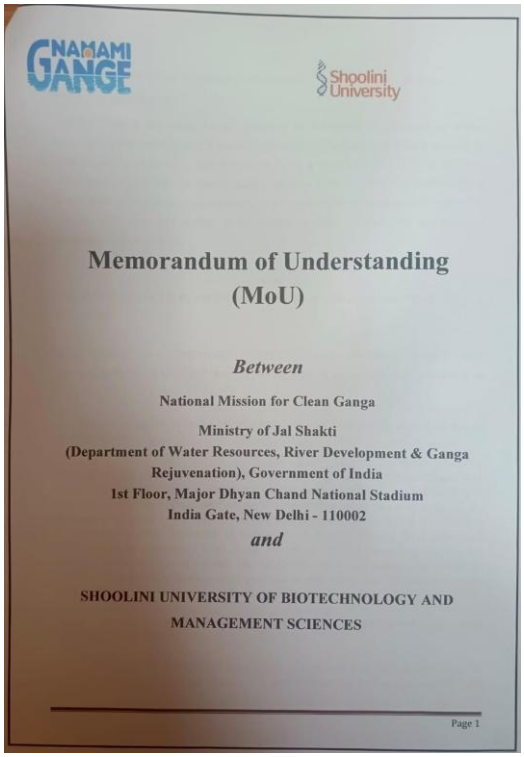
The University works closely with the Sanhol Panchayat, Solan Municipal Council, and the Vardhman Foundation to implement rural and urban sustainability projects. These collaborations focus on improving waste management, water conservation, and clean energy practices, thereby strengthening community resilience and promoting sustainable livelihoods in surrounding areas.

4.2 MoU signed with the Ministry of Jal Shakti

Shoolini University has developed strong collaborations with the Government of India to advance sustainable water management and conservation efforts. A key milestone in this direction is the Memorandum of Understanding (MoU) signed with the Ministry of Jal Shakti, which aims to promote efficient water resource management, conservation practices, and community awareness initiatives. Through this partnership, the university leverages its academic expertise, research capabilities, and technological innovations to contribute to national priorities under flagship programs such as the Jal Shakti Abhiyan, Atal Bhujal Yojana, and the National Water Mission. This collaboration strengthens the university's role in driving evidence-based policy interventions and implementing sustainable solutions for water security at both regional and national levels.

4.3 Collaboration with Vardhman Textiles

Shoolini University has established a strategic partnership with Vardhman Textiles, one of India's leading textile manufacturers, to advance sustainability and environmental responsibility within the industrial sector. This Memorandum of Understanding (MoU) emphasizes wastewater management and treatment, where Shoolini researchers actively conduct testing and analysis of key wastewater parameters such as Biochemical Oxygen Demand (BOD), pH, Total Suspended Solids (TSS), and Chemical Oxygen Demand (COD). The collaborative research has led to high-quality scientific publications and contributed to global awareness on water security and sustainable industrial practices. Through this partnership, the University continues to bridge academic research with industrial innovation, promoting cleaner production and responsible water resource management.



Memorandum of Understanding
(MoU)

Between

National Mission for Clean Ganga
Ministry of Jal Shakti
(Department of Water Resources, River Development & Ganga Rejuvenation), Government of India
1st Floor, Major Dhyan Chand National Stadium
India Gate, New Delhi - 110002
and

SHOOLINI UNIVERSITY OF BIOTECHNOLOGY AND MANAGEMENT SCIENCES

Page 1

Figure 22. Memorandum of Understanding between the National Mission for Clean Ganga, Ministry of Jal Shakti, and Shoolini University.



भारतीय गैर न्यायिक
एक सौ रुपये
Rs. 100
रु. 100
ONE HUNDRED RUPEES
भारत INDIA
INDIA NON JUDICIAL
पंजाब PUNJAB
AG 434944

MEMORANDUM OF UNDERSTANDING

This **MEMORANDUM OF UNDERSTANDING** (MOU) is made on this 27th day of October, 2021 at Ludhiana by and between

Vardhman Textiles Ltd., a company incorporated under the laws of India and having its registered office at Vardhman Premises, Chandigarh Road, Ludhiana, Punjab - 141010, represented by its Director & Chairman of CSR Committee of Board Mr. Prafull Anubhai (hereinafter referred to as **'Vardhman'** which expression unless excluded by or repugnant to the context shall be deemed to mean and include its Manufacturing Units, heirs, executors, administrators, successors, legal representatives and/or permitted assigns).

And

FOUNDATION FOR LIFE SCIENCES AND BUSINESS MANAGEMENT, (hereinafter referred to as **'FLSBM'** which expression unless excluded by or repugnant to the context shall be deemed to mean and include its executors, administrators, successors, legal representatives and/or permitted assigns) a Non-Profit registered society, having its office at Anand Complex, Near Head Post Office, The Mall, Solan, Himachal Pradesh, through its Founder Member and Secretary Mr. Prem Kumar Khosla.

(**'Vardhman'** and **'FLSBM'** shall hereinafter also be referred to as Party individually and collectively as Parties)

Page 1 of 6

Foundation for Life Sciences & Business Management (FLSBM)
Anand Campus, The Mall, Solan-173212 (H.P.)

Figure 23. Memorandum of Understanding with Vardhman Textiles.

SECTION 5

5. Sustainability Events and Community Engagement, 2025

The following events, documented in this report, engaged students, schools, partners and the wider community in sustainable living, waste reduction and inclusion during 2025.

Table 1. Sustainability events and campaigns documented in this report, 2025

Date	Event	SDGs aligned	Section
12 January 2025	Lights, Camera, Green Action: Youth Day Sustainability Challenge	SDG 11, SDG 4	5.3
28–30 March 2025	Eco-Innovation at Moksh: Sustainability Stall	SDG 11, SDG 12, SDG 13	5.2
22 April 2025	Bisleri's Bottles for Change: Campus Cleaning Drive	SDG 13, SDG 11	2.5
23 April 2025	Roots & Rhythms: A Celebration of North East India	SDG 10, SDG 11, SDG 16	5.5
24 April 2025	Our Power, Our Planet: Earth Day 2025	SDG 4, SDG 7, SDG 11, SDG 12, SDG 13	5.1
5 June 2025	Beating Plastic, Building Futures: World Environment Day 2025	SDG 12, SDG 13, SDG 4, SDG 14	5.4
2 October 2025	Roots of Change: Plantation and Cleaning Drive (170 volunteers)	SDG 13, SDG 15, SDG 11	2.5
22 November 2025	Clean Today, Green Tomorrow: Cleaning Drive at Ashwini Khad (40 volunteers)	SDG 6, SDG 11, SDG 13	2.5

5.1 Our Power, Our Planet: Earth Day 2025

Our Power, Our Planet: Shoolini's Earth Day 2025 – A Celebration of Innovation, Inclusion & Sustainability

Date	24th April 2025
Venue	Covered Parking, Shoolini University
SDGs aligned	SDG 4: Quality Education, SDG 7: Affordable and Clean Energy, SDG 11: Sustainable Cities and Communities, SDG 12: Responsible Consumption and Production & SDG 13: Climate Action

On April 24th, 2025, Shoolini University came alive with the spirit of Earth Day through a vibrant, purpose-driven celebration that united sustainability, innovation, and artistic expression. At the heart of the event was the Inter-School Eco-Challenge, where nine schools competed passionately across four dynamic categories: Clean Energy Live Demo, Waste-to-Wonder DIY Challenge, Green Bazaar Exhibition, and Poster Making. Each school brought forward incredible creativity and collaboration—demonstrating working models of clean

energy, repurposing waste into functional and beautiful products, setting up stalls that embodied the 3Rs (Reduce, Reuse, Recycle), and crafting thought-provoking posters under the theme "Our Power, Our Planet." This spirited challenge ignited both friendly competition and a deeper commitment to environmental stewardship.

Adding vibrancy to the celebration were thoughtfully curated stalls showcasing sustainable entrepreneurship and creativity. Lilac Oculi featured handmade jewellery inspired by the four elements, while eco-friendly scented candles offered a calming touch. The Trikut stall stood out with its zero-waste, all-paper designs. Guests enjoyed naturally blended drinks, handmade eco-cards, North East delicacies, and indulgent treats like mango cheesecake and chocolate-dipped strawberries—a delightful blend of sustainability and sensory joy.

More than just a celebration, Earth Day 2025 at Shoolini University was a vibrant call to action, led by informed and passionate youth. The event showed how academic institutions can become living labs for sustainability by blending culture, science, and community. Contributions from all nine schools—from engineering to arts—highlighted that sustainability is a shared mission, not confined to one field. It laid the groundwork for long-term impact through zero-waste products, renewable materials, and ethical consumption.

Ultimately, Earth Day 2025 symbolized Shoolini University's vision of nurturing leaders who not only excel in their fields but also champion the planet. It reinforced the belief that small, consistent efforts—when rooted in education and community—can create ripples of change. As the echo of the day's activities fades, its message remains clear: a sustainable future starts with us—today, together.



Figure 25. Earth Day 2025 poster.



Figure 26. Poster for the inter-department DIY project and display competition, 22 April 2025.



Figure 27. Earth Day 2025 celebrations at Shoolini University.

5.2 Eco-Innovation at Moksh

Eco-Innovation at Moksh: A Showcase of Sustainable Living

Date	March 28 to 30, 2025
Venue	Badminton Court
SDGs aligned	SDG 11: Sustainable Cities and Communities, SDG 12: Responsible Consumption and Production & SDG 13: Climate Action

From March 28th to 30th, 2025, Shoolini University's annual fest, Moksh, featured a dedicated Sustainability Stall located at the Badminton Court. This special corner was designed to promote awareness about sustainable living, showcasing eco-friendly practices, and encouraging individuals to make environmentally responsible choices. The stall was entirely built using handmade materials, reflecting the university's commitment to sustainability.

The Sustainability Stall featured a variety of exhibits and activities that emphasized the importance of sustainable living in today's world. The materials used to set up the stall were entirely handcrafted, and sourced from recycled or natural resources, ensuring that the stall itself was a demonstration of sustainability. From upcycled furniture to handmade decorations, every element of the stall showcased creativity and innovation while promoting eco-friendly alternatives to conventional practices.

The stall included interactive displays, such as DIY workshops, where visitors could learn how to create their own sustainable products, like reusable bags, biodegradable items, and natural cleaning solutions. Additionally, there were informational boards that provided tips on how to reduce carbon footprints, conserve resources, and adopt a sustainable lifestyle.

Throughout the event, the Sustainability Stall engaged visitors in discussions about the impact of everyday choices on the environment and the importance of reducing waste, recycling, and reusing materials. By featuring handmade, eco-friendly products, the stall encouraged attendees to explore alternatives to single-use plastics and disposable items, thereby inspiring them to take small yet impactful steps toward sustainability.

Visitors were also introduced to various local sustainable brands and initiatives that focus on creating a greener future, offering an opportunity to connect with people who share the same passion for environmental consciousness.

The Sustainability Stall at Moksh wasn't just about showcasing eco-friendly products—it was a symbol of the university's commitment to making sustainability an integral part of campus life. By organizing this corner, Shoolini University provided a platform for students to actively engage in sustainability efforts and learn more about living in harmony with the environment. This stall was a perfect example of how sustainability can be creatively incorporated into university events, leaving a lasting impact on students, staff, and visitors. It reminded everyone that each small effort counts, and by coming together, we can make a significant difference in protecting the planet for future generations.



Figure 28. Moksh fest poster and the handmade, upcycled sustainability stall.



Figure 29. Students at the Sustainability Stall during Moksh, March 2025.

5.3 Lights, Camera, Green Action: Shoolini's Youth Day Sustainability Challenge

Date	12 January 2025
Format	Online Youth Day Video Making Contest
SDGs aligned	SDG 11: Sustainable Cities and Communities & SDG 4: Quality Education

Shoolini University's Online Youth Day Video Making Contest turned out to be a remarkable celebration of creativity, sustainability, and youth empowerment. The contest was designed to encourage students to express their ideas and actions for creating a greener future through short videos. The participants were asked to showcase how they, as the youth of today, could contribute to sustainability through various means such as recycling, renewable energy adoption, social initiatives, or any eco-friendly practices they were personally involved in.

The contest attracted a large number of inspiring entries, each offering a unique perspective on the role of young people in shaping a more sustainable world. After careful evaluation, the top 5 videos were shortlisted, each demonstrating outstanding creativity, innovation, and relevance to sustainability goals. These videos stood out for their impactful messages and the practical actions they showcased, reflecting the deep commitment of the participants to environmental stewardship.

The top 5 winners were awarded for their remarkable efforts, with prizes recognizing their creativity and dedication to sustainability. Their videos not only raised awareness but also inspired others to think about how they could contribute to sustainability in their own lives. By highlighting practical, achievable actions like reducing waste, conserving energy, or leading community initiatives, these top entries illustrated that even small actions can have a significant impact on the environment.

The contest was a huge success in achieving its goals of fostering environmental consciousness, engaging students in meaningful conversations about sustainability, and empowering them to take action. It also helped strengthen Shoolini University's commitment to creating a culture of sustainability, both on and off campus. The event was a true reflection of how the youth, with their innovative thinking and passion for change, can contribute to building a better, more sustainable future for all.

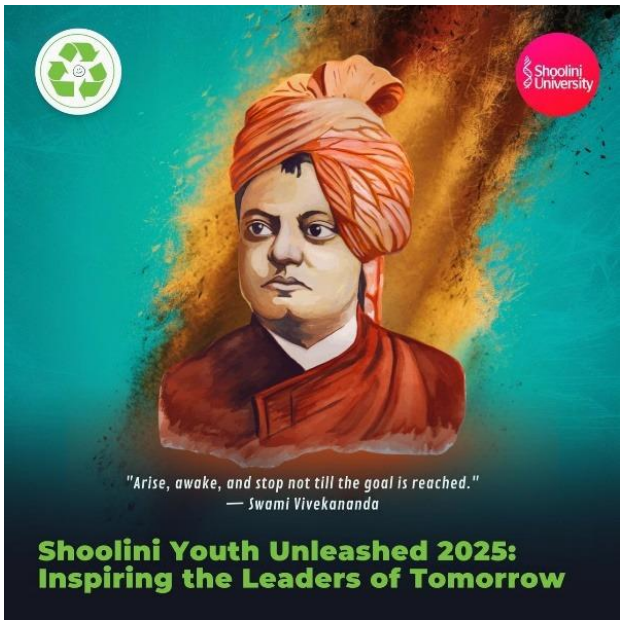


Figure 30. Shoolini Youth Unleashed 2025: Youth Day poster.

5.4 Beating Plastic, Building Futures: World Environment Day 2025

Beating Plastic, Building Futures: Shoolini's Commitment to a Greener Tomorrow: World Environment Day 2025

Date	June 5, 2025
Mode	Online (Zoom)
Theme	Beat Plastic Pollution #ISwitchIDitch
SDGs aligned	SDG 12: Responsible Consumption and Production, SDG 13: Climate Action, SDG 4: Quality Education and SDG 14: Life Below Water.

On June 5, 2025, Shoolini University celebrated World Environment Day with an impactful online session hosted on Zoom. Aligning with this year's global theme, Beat Plastic Pollution, the event aimed to raise awareness about the growing environmental crisis caused by plastic waste and inspire participants to adopt sustainable alternatives in their daily lives.

The session began with an inspiring address by Ms. Poonam Nanda, Director of Sustainability and Community Projects, who emphasized the importance of small actions leading to significant environmental change. Students were invited to share personal stories about how conscious decisions, such as carrying reusable bottles or avoiding plastic bags, had made a difference in their routines. Their experiences highlighted that meaningful change often begins with the simplest steps.

An engaging eco-quiz tested participants' knowledge of sustainability and encouraged learning through fun. Winners were awarded Amazon vouchers, and participation certificates were given to all attendees. The event also featured the launch of the Instagram challenge "I Switch, I Ditch," promoting creative expressions of individual sustainable choices.

The event concluded with a united pledge to reduce, reuse, and refuse plastic. Students and faculty stood together, symbolizing a collective commitment to environmental stewardship. It wasn't just a promise—it was a call to action, urging everyone to make sustainability a habit, not just a one-time effort. Through this initiative, Shoolini once again demonstrated that building a greener, more responsible future begins with awareness, grows through community, and thrives on consistent action.





Figure 31. World Environment Day 2025 online session and pledge, 5 June 2025.

5.5 Roots & Rhythms: A Celebration of North East India at Shoolini

Date	23rd April 2025
Venue	OAT, Shoolini University
SDGs aligned	SDG 10: Reduced Inequalities, SDG 11: Sustainable Cities and Communities & SDG 16: Peace, Justice and Strong Institutions

Shoolini University recently hosted a vibrant North East Cultural Evening, celebrating the traditions, music, and dance forms of the eight North Eastern states of India. This inclusive event served not only as a cultural showcase but also as a platform for sustainable and socially conscious practices. The evening featured mesmerizing performances like the Bihu and Cheraw dances, with students proudly representing their roots. Decorations were crafted using natural and reusable materials such as jute, bamboo, and cloth, minimizing environmental impact. Printed materials were kept to a minimum, with QR codes and digital invites used to reduce paper waste. Traditional attire and props were either reused or sourced from sustainable artisans, promoting eco-conscious fashion.

At the heart of the event was the value of inclusivity. Students from various cultural backgrounds participated as performers, volunteers, and audience members, fostering mutual respect and unity. The event welcomed everyone—whether from the North East or other regions—encouraging cross-cultural dialogue and empathy. Through multi-language greetings, cultural storytelling, and interactive booths, the event created a space where

everyone could learn, connect, and celebrate heritage together. This openness helped combat stereotypes and created a more culturally aware and inclusive campus environment.

The North East Cultural Evening not only honored India's diversity but also reflected Shoolini University's commitment to sustainability and social equity. It showcased how cultural celebrations can be both environmentally responsible and deeply unifying. Events like these continue to strengthen community bonds, preserve heritage, and reinforce the university's values of harmony, respect, and responsible citizenship.



Figure 32. Students performing at the North East Cultural Evening, 23 April 2025.

SECTION 6

6. Research on Sustainable Cities and Communities

Shoolini University's research output mapped to SDG 11: Sustainable Cities and Communities is tracked through Elsevier's SciVal. In 2025, the University published 23 research papers related to SDG 11. These publications received 91 citations and 386 views, with a Field-Weighted Citation Impact (FWCI) of 0.90. Eleven of the 23 publications were produced with international collaborators.

23	0.90	11	91	386
SDG 11 publications in 2025 (scholarly output)	Field-Weighted Citation Impact	publications with international collaboration (47.8%)	citations	views

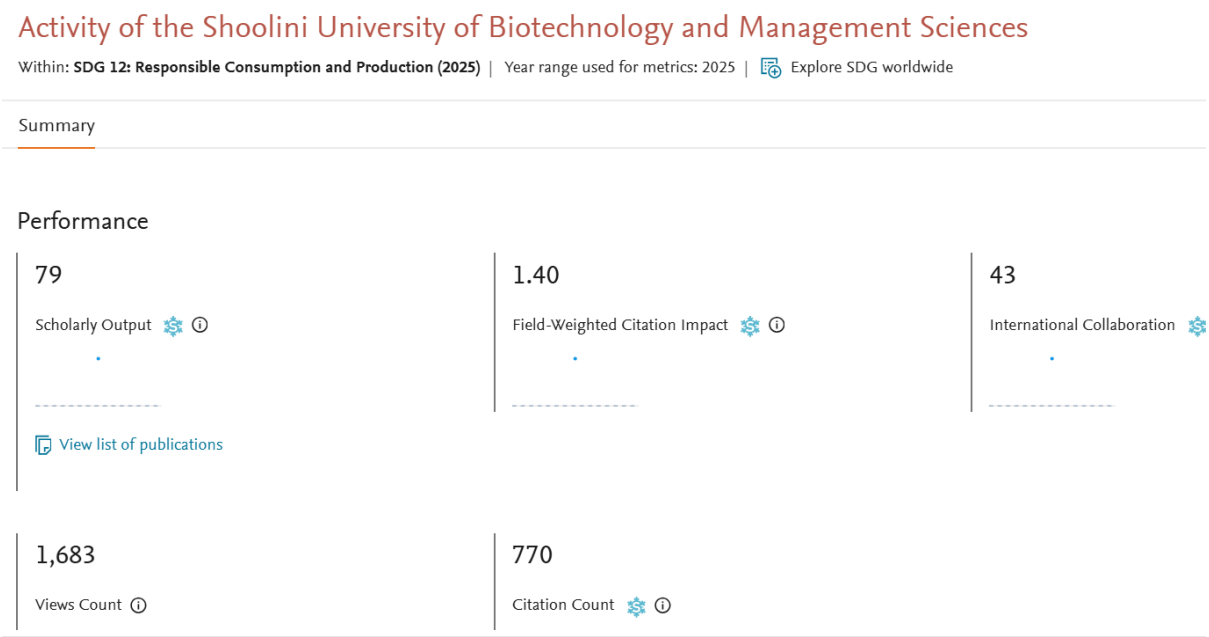


Figure 33. SciVal summary of Shoolini University's SDG 11 research activity, 2025. Source: Elsevier SciVal, SDG 11: Sustainable Cities and Communities (2025).

SECTION 7

7. Arts, Culture and Public Engagement

Shoolini University's annual cultural festival, Moksh, is held as part of the Shoolini Spring Fest alongside the Shoolini Literature Festival. Moksh 2025 was hosted at the Yuvraj Singh Stadium and attracted thousands of students from Shoolini University and nearby institutions over several days. The festival's cultural programme celebrated Himachali heritage and regional languages, connecting the University community with the traditions of the region. The Sustainability Stall at Moksh is described in Section 5.2.

Source: Shoolini University, "The Shoolini Story in 2025: Life, Learning & Leadership" (19 December 2025)

7.1 Moksh 2025, Day 1: Himachali Night

Moksh Day 1: Himachali Night – Showcasing Our Culture and Grandeur

Date	28 March 2025
Performers	Shubham Surya and A.C. Bhardwaj
SDGs aligned	SDG 11: Sustainable Cities and Communities & SDG 4: Quality Education (Preserving Culture for Sustainable Communities)

The much-anticipated Himachali Night on 28 March marked a vibrant and soulful start to Moksh, Shoolini University's annual fest. The evening was a heartfelt homage to the rich culture, traditions, and musical heritage of Himachal Pradesh, creating an immersive experience for everyone present.

The stage came alive with captivating performances by Shubham Surya and AC Bhardwaj, whose melodious voices and heartfelt renditions resonated deeply with the audience. Their songs beautifully showcased the region's folk roots, evoking the spirit of the hills, the tales of its people, and the timeless charm of its landscapes.

Beyond music, the event celebrated Himachali culture through traditional attire, dance, and storytelling, weaving a colorful tapestry of the state's diverse customs. The enthusiastic participation of students and faculty alike reflected a shared pride in local heritage and a collective effort to preserve and promote it.

Himachali Night was not just a performance; it was a cultural journey that connected past and present, inspiring all to embrace and celebrate the unique identity of Himachal Pradesh with joy and reverence.



Figure 34. Students in traditional Himachali attire performing a folk dance at Himachali Night, Moksh 2025, 28 March 2025.

7.2 Moksh 2025, Day 2: Stand-up Comedy and Kavi Sammelan

Moksh Day 2: Kavi Sammelan – An Evening of Laughter, Verse, and Soulful Connection

Event	Day 2 of Moksh, held with the fifth Shoolini Literature Festival
Format	Stand-up comedy followed by a Kavi Sammelan in Hindi and regional languages
SDGs aligned	SDG 11: Sustainable Cities and Communities & SDG 4: Quality Education (Fostering Culture, Creativity, and Community)

Day 2 of Moksh at Shoolini University unfolded as a celebration of words, wit, and emotions—reminding everyone that creativity is not just entertainment, but a reflection of who we are. The evening began with a high-energy stand-up comedy performance that quickly turned the venue into a theatre of laughter. With sharp humor, relatable anecdotes, and clever observations drawn from student life, relationships, and everyday chaos, the comedian masterfully connected with the audience. His timing and authenticity had students and faculty members in splits, creating an atmosphere of joy and collective cheer.

The transition from light-hearted laughter to contemplative silence was beautifully marked by the Kavi Sammelan, where a line-up of talented poets took the stage to express stories of the heart, the self, and society. With a mix of humorous, romantic, and thought-provoking poetry in Hindi and regional languages, the Sammelan became a celebration of linguistic beauty and the power of spoken word. Each poem left a lasting impression—some provoking thought, others offering comfort, and many stirring emotions long forgotten.

What made the evening truly memorable was the sense of belonging it fostered. Whether through laughter or poetry, the performers created spaces for dialogue, connection, and

introspection. Students were not just passive spectators—they were active participants, resonating deeply with every punchline and every couplet.

Beyond just being a cultural segment, Day 2 highlighted the university's commitment to nurturing spaces where emotion, intellect, and creativity can flourish. It served as a reminder that humor can heal, poetry can unite, and the arts remain a powerful medium for self-expression and community bonding.

As the night came to a close, the echoes of applause and poetic verses lingered in the air, setting the perfect tone for the days of Moksh still to come—a festival not just of performance, but of shared human experience.



Figure 35. A poet performing at the Kavi Sammelan of the fifth Shoolini Literature Festival, Moksh 2025.

7.3 12th Flower Festival

Date	28–30 March 2025
Inaugurated by	Filmmaker Imtiaz Ali
Theme	Leading Happy and Healthy Life with Shoolini
Participating schools	Geeta Adarsh School, BL Central, St. Luke's, St. Mary's, Government High School Anji and Government School Dharja
Open to	Visitors from Solan and nearby areas

Shoolini University's 12th Flower Festival opened on 28 March 2025 and ran for three days, coinciding with Moksh and the Shoolini Literature Festival. Inaugurated by filmmaker Imtiaz Ali, the festival displayed more than 145 varieties of annual, biennial and perennial plants, prepared over six months of planning and cultivation with an investment of over ₹70 lakh. Highlights included Rhododendron campanulatum, the state flower of Himachal Pradesh, Ek

Mukhi Rudraksha, and a Bougainvillea cultivated over ten years; ranunculus was the most popular purchase, and 4-ft Deodar saplings were offered to visitors.

The festival was open to visitors from Solan and the surrounding areas and drew participation from six local schools. Visitors took part in flower crown-making, pottery and painting workshops, viewed an exhibition of nature-inspired paintings by local artists, including Mhos Art from Kangra, and visited a stall of decorative, jewellery and utility items made from waste materials. Through its "Vocal for Local" initiative and upcycled art displays, the festival encouraged visitors to connect with nature and adopt sustainable practices. As Landscape Officer Suresh Sharma noted, the motto of the festival is "to lead a happy and healthy life with Shoolini."



Figure 36. Visitors at the 12th Flower Festival, Shoolini University, 28–30 March 2025.

7.4 Annual Marathon on Climate Change Awareness

Date	20 September, 2025
Theme	Climate change awareness
Participants	Over 550 students, faculty members and regional participants

Shoolini University's Annual Marathon in 2025 was organised on the theme of climate change awareness. The run brought together more than 550 students, faculty members and participants from the surrounding region, using a mass community event to raise awareness of climate change and encourage healthy, active lifestyles. The marathon is a long-standing fixture of the University's calendar; its previous edition in 2024, the 11th, started at Thodo Ground in Solan and was flagged off by the Deputy Commissioner of Solan.

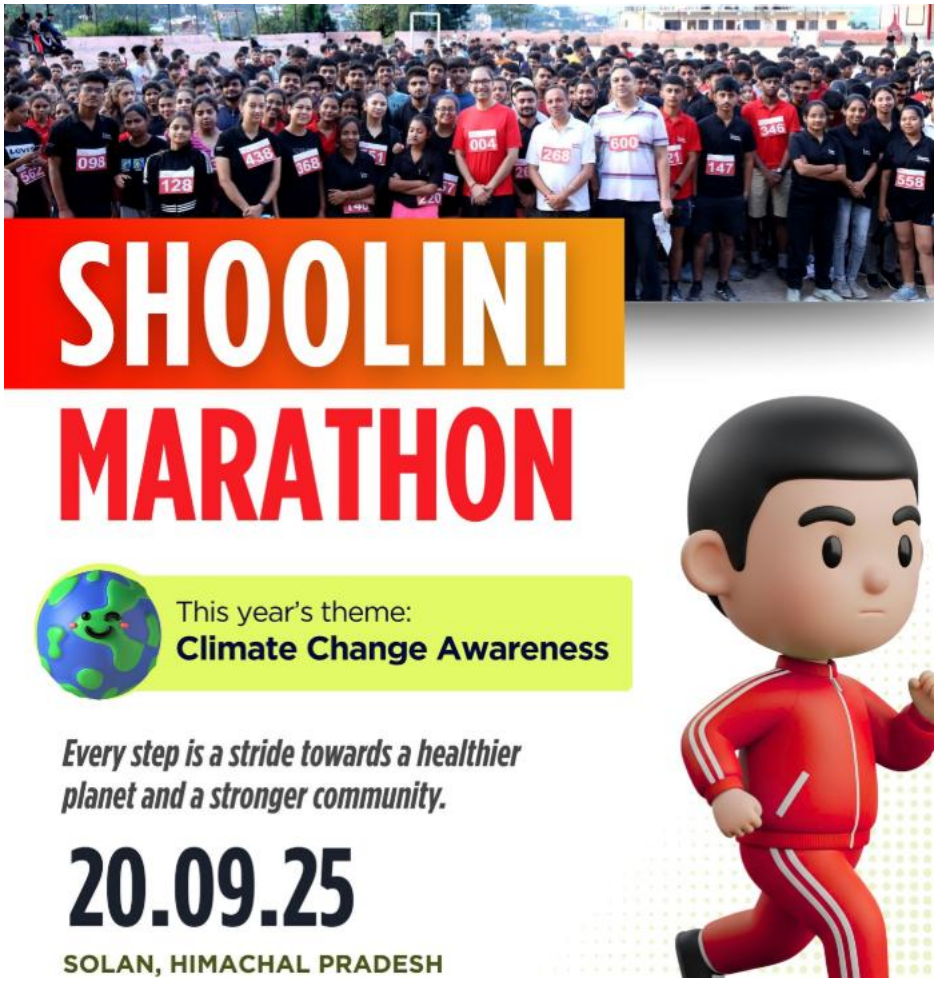


Figure 37. Participants in Shoolini University's Annual Marathon on climate change awareness, 2025.