



**TEERTHANKER
MAHAVEER UNIVERSITY**
Moradabad

Accredited with NAAC **A** Grade

12-B Status from UGC



SUSTAINABLE DEVELOPMENT GOALS

Report on
SDG-15

15 LIFE ON
LAND





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SDG-15



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Teerthanker Mahaveer University (TMU) is deeply committed to biodiversity conservation and sustainable land use. The University has developed lush green spaces, botanical gardens, and a thriving tree cover across its campus to nurture and protect local flora and fauna. TMU also undertakes research on critical environmental issues such as deforestation, soil degradation, and sustainable land management practices.

In addition to research, the University organizes regular workshops, awareness campaigns, and community engagement programs to educate students and local residents on the significance of conserving terrestrial ecosystems. Through initiatives like tree plantation drives and wildlife conservation awareness activities, TMU continues to contribute actively towards the protection, restoration, and sustainable use of terrestrial resources. These efforts are directly aligned with SDG 15: Life on Land, reaffirming the University's commitment to safeguarding the environment for future generations.





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Publications on Various SDGs (2024)		
S.No	Sustainable Development Goals	No of Publications
1.	No poverty	5
2.	Zero hunger	33
3.	Good health and well-being	332
4.	Quality Education	239
5.	Gender equality	43
6.	Clean water and sanitation	19
7.	Affordable and clean energy	45
8.	Decent work and economic growth	75
9.	Industry, innovation, and infrastructure	366
10.	Reduced inequalities	6
11.	Sustainable cities and economies	33
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Teerthanker Mahaveer University (TMU)

SDG 15: Life on Land

Teerthanker Mahaveer University (TMU) upholds a profound commitment to the conservation and sustainable management of terrestrial ecosystems, aligning its environmental policies and campus practices with the objectives of Sustainable Development Goal 15: Life on Land. This goal emphasizes protecting, restoring, and promoting the sustainable use of land resources, preserving biodiversity, and maintaining ecological balance for future generations.

Recognizing the growing threats of deforestation, land degradation, and habitat loss, TMU integrates ecological protection into its academic, operational, and community outreach initiatives. The lush green campus, spread across hundreds of acres, serves as a living laboratory for biodiversity conservation and sustainable landscaping.

Through tree plantation drives, herbal gardens, pollution-free zones, and green landscaping projects, the university actively contributes to ecosystem restoration. TMU's environmental science and agricultural departments lead research on soil health management, afforestation, and sustainable farming practices, directly addressing land degradation and ecological sustainability.

The institution also promotes awareness programs for local farmers, encouraging organic agriculture, responsible land use, and natural resource preservation. Energy-efficient infrastructure, solid waste management systems, and eco-club initiatives further reinforce TMU's vision of a green, sustainable campus.

In collaboration with government and non-government organizations, TMU extends its conservation efforts beyond campus boundaries, supporting regional biodiversity initiatives and wildlife protection drives. By fostering environmental stewardship among students, faculty, and the surrounding community, TMU exemplifies a holistic approach to sustainability.

Through education, innovation, and responsible action, TMU continues to contribute meaningfully to the global mission of protecting life on land and ensuring a balanced coexistence between humanity and nature.





Metric 15.2.1 – Events about Sustainable Use of Land (2024)

TMU actively supports and organizes events aimed at promoting conservation and sustainable land use, habitat restoration, and afforestation within its campus and surrounding communities. These events engage students, faculty, staff, and local residents, reinforcing TMU's role as an environmental steward of its land.

Initiatives and Activities:

- On World Environment Day 2025, TMU organized a tree plantation campaign under the NSS unit. Over 200 trees of native species were planted on campus to enhance green cover and biodiversity.
- The College of Agricultural Sciences conducted a tree plantation drive in Village Faleda, mobilizing students and community members to contribute to local afforestation efforts.
- TMU's Wildlife Club hosts nature walks, habitat restoration projects, guest talks, and educational events that emphasize sustainable land conservation and awareness of local biodiversity.
- The Bird Safe TMU initiative organizes window mural painting workshops and campus patrols to protect urban bird habitats and reduce bird-window collisions as part of wildlife conservation efforts on campus.



Student Participation in Community Area





Outcomes:

- Enhanced green cover on campus and adjacent areas, contributing to habitat connectivity.
- Increased student and community awareness of land conservation, habitat protection, native species planting, and ecosystem sensitivity.
- Active engagement by clubs and volunteers in hands-on ecological restoration events.

Impact:

These events reinforce TMU's commitment to SDG 15 – Life On Land by promoting sustainable land use practices, fostering ecological consciousness, restoring habitats, and preserving biodiversity within campus and community spaces.

Metric 15.2.2 – Sustainably Farmed Food on Campus

This metric assesses whether the university has in place a policy ensuring that food served on campus is sourced from farms using sustainable practices (organic, low-chemical, soil-friendly, etc.). At present, TMU does not have a publicly posted formal procurement policy explicitly requiring all campus-food to be



Students Participating in Organic Farming Training





sustainably farmed. However, there are several existing university practices, curricular programmes, training, and capacity-building initiatives that align closely with the sustainable farming principles, providing a foundation upon which such a policy could be formalized.

Initiatives and Activities:

- **Organic Farming Training:** In late March 2025, TMU faculty and students participated in a National Organic Farming Training Programme organized by the National Centre for Organic and Natural Farming (NCONF). This residential training programme (5 days) in Ghaziabad aimed to equip participants with knowledge and skills in organic farming, sustainable inputs, ecological balance, and minimal chemical use.
- **Academic Programmes Focused on Soil and Sustainable Land Use:** TMU offers postgraduate courses such as M.Sc. Soil Science, which includes electives like Environmental Soil Science, Soil Pollution and Remediation, and Watershed Management. These courses teach sustainable farming and land stewardship methods, indirectly supporting sustainably farmed food sourcing through the education of future farmers, agronomists, and environmental practitioners.
- **Agricultural Sciences Curriculum:** The College of Agricultural Sciences emphasises precision farming, organic farming methods, and sustainable practices. The curriculum includes hands-on work in greenhouses and farmland that model sustainable practice.

Impact:

- The organic farming training and agricultural courses raise awareness, build technical capacity, and prepare graduates who understand sustainable farming. This sets the stage for demand and implementation of sustainably farmed food procurement in future.
- Producing and demonstrating sustainable agriculture practices on campus farms or demonstration plots help shape campus culture and expectation among students, faculty, and vendors.
- TMU formalizes work into procurement, thereby ensuring measurable environmental, health, and biodiversity benefits.

Metric 15.2.3 – Maintain and Extend Current Ecosystems’

Biodiversity

Teerthanker Mahaveer University (TMU) is actively committed to preserving and enhancing biodiversity on its campus by maintaining existing ecosystems (green belts, gardens, plantations, water bodies) and extending them through planting drives and habitat-sensitive landscaping. The university acknowledges





that biodiversity is central to ecological resilience, providing habitat for flora and fauna, maintaining ecosystem services, and nurturing healthy green spaces.

Initiatives and Activities:

- **Tree Plantation Drives:** On World Environment Day 2024, TMU organized a large tree plantation campaign under the NSS unit where a range of native species were planted across campus lawns and green belts, contributing to both biodiversity and ecosystem stability.
- **Green Campus Planning:** TMU campus includes large lawns, well-maintained playgrounds, multiple parks and pathways, development of water bodies, and plantations. These green spaces are planned to support biodiversity and act as habitat patches within the campus landscape.
- **Creation and Maintenance of Water Bodies:** The University has its own water lake (capacity ~1 crore litres) used for rainwater harvesting, which contributes to habitat for aquatic organisms, supports micro-ecosystems, and helps maintain biodiversity in campus water cycles.
- **Rainwater Harvesting and Groundwater Recharge:** Through roof-harvest systems and construction of tanks and bunds, TMU enhances moisture retention and supports vegetation health in existing green areas. These support the wellbeing of plant ecosystems and help maintain soil quality.



Roof Rain Harvesting





Outcomes:

- Sustained increase in green cover on campus, with hundreds of trees planted annually, enhancing tree species diversity and helping create micro-habitats for birds and small fauna.
- Healthy maintenance of existing water bodies and green patches that provide refuge to insects, birds, and other small wildlife.
- Increased awareness among students, staff, and the surrounding community about the importance of biodiversity, habitat restoration, and ecosystem services.

Impact:

- These actions contribute to ecosystem resilience on campus, improving air quality, microclimate regulation, soil health, and ecological balance.
- Green spaces and water bodies serve as living laboratories for academic research and environmental learning, fostering biodiversity studies and stewardship.
- Enhanced campus biodiversity also supports cultural, aesthetic, and mental well-being of the university community.

Metric 15.2.4 – Educational Programmes on Ecosystems

Teerthanker Mahaveer University (TMU) recognises the vital role of education and community awareness in conserving terrestrial ecosystems, protecting biodiversity, and promoting harmony with nature. The University's initiatives integrate classroom instruction, field learning, and outreach programmes to deepen understanding of ecosystems—covering wild flora, fauna, and natural habitats—and encourage sustainable practices within local and national communities.

Initiatives and Activities:

- **Environmental Education and Awareness Drives:** TMU regularly conducts awareness campaigns, workshops, and rallies focusing on the protection of natural habitats, tree plantation, and conservation of biodiversity. These are organised through the National Service Scheme (NSS) and Institution's Innovation Council (IIC) in association with the College of Agricultural Sciences and College of Nursing.
- **World Environment Day and Earth Day Celebrations:** Annual events such as World Environment Day (5 June) and Earth Day (22 April) include seminars, debates, poster competitions, and plantation activities that educate students and local residents about the interdependence of





ecosystems, flora, fauna, and sustainable lifestyles. (tmu.ac.in/news/tmu-marks-world-environment-day-with-tree-plantation-campaign)

- **Community Outreach Programmes:** The College of Agricultural Sciences organizes community-level sessions in nearby villages, educating farmers and rural youth on soil conservation, organic farming, afforestation, and sustainable land management — thereby promoting local biodiversity and ecosystem protection.
- **Workshops on Environmental Sustainability:** TMU's Environmental Science and Biotechnology Departments conduct periodic workshops on environmental protection, waste



Students Engaged in Practical Sessions

management, and biodiversity conservation, fostering scientific understanding and ecosystem stewardship among students and educators.

- **Institutional Values and Best Practices (IQAC):** The University's IQAC promotes environmental consciousness through initiatives listed under *Institutional Values and Social Responsibilities*, which directly encourage preservation of flora and fauna and environmental





education. (tmu.ac.in/tmu/iqac-cell/institutional-values/environmental-consciousness-and-sustainability)

Outcomes:

- Enhanced awareness among students, staff, and community members regarding the importance of ecological balance and biodiversity conservation.
- Increased community participation in environmental preservation and sustainable land use practices.
- Integration of biodiversity-focused learning within academic curricula and extracurricular activities, promoting lifelong ecological responsibility.

Impact:

Through consistent educational engagement and outreach, TMU fosters an environmentally conscious campus culture that extends beyond its boundaries, influencing neighboring communities and schools. The University's efforts ensure that knowledge on ecosystems and biodiversity is translated into action for sustainable living and environmental stewardship.

Metric 15.2.5 – Sustainable Management of Land for Agriculture (Educational Outreaches)

Teerthanker Mahaveer University (TMU), Moradabad, through its College of Agricultural Sciences, demonstrates a deep commitment to promoting sustainable land management and responsible agricultural practices. The university recognises that sustainable agriculture is not merely about productivity—it is about preserving biodiversity, maintaining soil fertility, conserving water, and ensuring food security for future generations. TMU's initiatives integrate academic instruction, field-based training, and community outreach to empower students, farmers, and rural communities to become stewards of the environment.

The educational programmes under this initiative are designed to disseminate scientific knowledge, indigenous practices, and modern sustainability principles to enhance land productivity without ecological degradation.





Institutional Initiatives and Educational Outreach

1. Community-Based Farmer Training and Demonstrations:

TMU, in collaboration with regional agricultural departments and Krishi Vigyan Kendras, conducts training and capacity-building workshops for local farmers. These workshops focus on topics like organic and natural farming, crop diversification, drip and sprinkler irrigation systems, zero tillage, and climate-resilient crop selection. Demonstration plots within the university campus and partner villages serve as live laboratories for sustainable cultivation methods.

2. Integrated Agricultural Education:

The B.Sc. (Hons.) Agriculture programme integrates field-based experiential learning where students engage directly with local farmers under the Rural Agricultural Work Experience (RAWE) scheme. This initiative encourages students to provide advisory services, introduce eco-friendly technologies, and collect feedback on soil and crop conditions, creating a bridge between scientific learning and community application.

3. Soil Health and Water Conservation Programmes:

TMU operates a soil testing and nutrient management laboratory that serves both students and nearby rural communities. The lab assists farmers in identifying deficiencies, promoting the use of organic manure, and adopting Integrated Nutrient Management (INM) techniques. Additionally, awareness sessions on rainwater harvesting, contour bunding, and farm pond management contribute to sustainable water resource utilization.

4. Outreach on Regenerative Agriculture and Agroecology:

Through extension activities and awareness drives, the university advocates for regenerative farming models that restore soil carbon, enhance microbial diversity, and reduce dependency on synthetic inputs. The College of Agricultural Sciences hosts lectures on agroecological farming, encouraging participants to maintain harmony between land use and biodiversity conservation.





5. Student Engagement and Social Responsibility:

TMU's students are actively involved in the "Adopt a Village" initiative, wherein they work with marginal farmers to improve agricultural practices. These activities include promoting composting, bio-fertilizer use, and waste-to-wealth concepts. The outreach programmes strengthen rural resilience while nurturing socially conscious graduates who value sustainability.

6. Promotion of Indigenous Knowledge Systems:

Recognising the value of traditional agricultural wisdom, TMU integrates local and indigenous farming knowledge into training sessions, fostering sustainable techniques that align with regional ecology and cultural practices.



Student Engagement in the Agricultural Fields





Impact and Outcomes

- **Enhanced Community Awareness:** Over 500 local farmers from nearby villages have benefited from TMU's outreach activities, improving awareness about sustainable land use and crop management.
- **Improved Soil Health and Productivity:** Adoption of organic and regenerative methods has led to measurable improvements in soil fertility and reduced chemical dependency.
- **Capacity Building:** Students gain hands-on experience in field extension work, equipping them with leadership and sustainability skills relevant to national agricultural priorities.
- **Strengthened University-Community Partnership:** TMU has become a knowledge hub for sustainable rural development in Western Uttar Pradesh, reinforcing its role as a socially responsible academic institution.

Metric 15.2.6 – Sustainable Management of Land for Tourism (Educational Outreach)

Teerthanker Mahaveer University (TMU) recognizes the importance of sustainable land management as a critical factor in promoting responsible tourism and preserving natural ecosystems. The University is committed to promoting environmental stewardship and community engagement through educational outreach and awareness programs that encourage eco-friendly tourism practices and conservation of local biodiversity.

Objectives

1. To educate local and national communities on principles of sustainable tourism and land use.
2. To promote the conservation of natural landscapes, flora, and fauna in and around tourism zones.
3. To foster partnerships between academia, government, and local communities for sustainable tourism development.
4. To minimize the environmental impact of tourism through informed land management practices.





Implementation Strategies

1. Community Workshops and Seminars:

- Conducted regular awareness sessions for local residents, students, and tourism operators on sustainable tourism practices, environmental ethics, and the socio-economic benefits of preserving natural habitats.
- Topics include waste reduction, energy-efficient tourism, water conservation, and biodiversity protection.

2. Collaborations and Field Initiatives:

- Partnered with local tourism boards, municipal authorities, and NGOs to promote responsible land-use planning for tourism activities.
- Organized educational field visits for students of environmental science, geography, and management to eco-sensitive zones for experiential learning.

3. Curriculum Integration:

- Courses and modules on *Sustainable Tourism Management* and *Environmental Impact of Tourism* have been embedded into academic programs under Management, Environmental Science, and Social Work departments.
- Students undertake project work assessing tourism's impact on land degradation and ecosystem disruption.

4. Sustainability Practices on Campus:

- TMU promotes eco-tourism within campus by maintaining green zones, herbal gardens, and biodiversity-rich areas as demonstration models of sustainable tourism management.
- Interpretation boards and guided campus nature trails educate visitors and students about environmental conservation.

5. Awareness and Outreach Campaigns:

- Conducted awareness drives on “Eco-Friendly Travel” and “Leave No Trace” principles, encouraging visitors and tourists to adopt sustainable travel habits.





- Hosted panel discussions on balancing tourism growth with environmental sustainability.



Collaborative Activities for Cleaner Tourism Areas of the Community

Outcomes and Impact

- Enhanced community understanding of sustainable land-use practices in tourism.
- Empowered local stakeholders to participate in preserving natural landscapes through eco-tourism models.
- Strengthened academic-community partnerships leading to local-level policy recommendations.
- Promoted TMU as a hub for sustainability education and environmental responsibility.

Metric 15.3.1 – Sustainable Use, Conservation and Restoration of Land (Policy)

Teerthanker Mahaveer University (TMU) is committed to ensuring the conservation, restoration, and sustainable use of terrestrial ecosystems associated with the University campus and its surrounding regions. The University recognizes its institutional responsibility to safeguard forests,





grasslands, drylands, and other ecological zones, ensuring that academic, research, and infrastructural activities align with the principles of ecological balance and sustainable development.

Objectives

1. To promote conservation and restoration of natural terrestrial ecosystems associated with and around the university campus.
2. To implement sustainable land use practices that maintain soil fertility, prevent degradation, and promote afforestation.
3. To integrate ecosystem management principles into teaching, research, and campus operations.
4. To enhance community participation in land conservation and restoration activities.
5. To monitor and evaluate the ecological impact of university activities to ensure compliance with environmental standards.



Plantation Drive





Implementation Strategies

1. Afforestation and Reforestation Initiatives:

- TMU conducts annual tree plantation drives across the campus and adjacent rural zones to restore degraded lands and enhance green cover.
- Native and drought-resistant species are prioritized to maintain ecological balance and support local biodiversity.

2. Sustainable Landscaping and Land Use Practices:

- The university follows eco-sensitive landscaping methods, including rainwater harvesting pits, soil moisture conservation trenches, and drip irrigation systems.
- No use of chemical fertilizers or harmful pesticides within green campus zones; organic composting from biodegradable waste is promoted.

3. Conservation of Forests and Green Zones:

- TMU maintains designated *Green Conservation Areas* within campus boundaries as protected zones, prohibiting any construction or disruptive activity.
- Students and faculty conduct biodiversity mapping to identify and preserve existing plant and animal species.

4. Soil and Dryland Management:

- Research initiatives focus on sustainable soil management and land restoration techniques for dry and semi-arid regions of Uttar Pradesh.
- Collaboration with local farmers through agricultural outreach programs ensures adoption of soil conservation practices like contour plowing and mulching.

5. Educational and Research Integration:

- Environmental studies, agricultural sciences, and biotechnology programs include modules on *ecosystem restoration*, *land rehabilitation*, and *climate-resilient land management*.
- Faculty and students participate in action research on land restoration and biodiversity enhancement in collaboration with governmental and non-governmental organizations.





6. Community and Stakeholder Engagement:

- TMU organizes community awareness workshops in surrounding villages to promote afforestation, soil conservation, and water-efficient land use.
- Collaborates with the Forest Department and local environmental NGOs for restoration of nearby degraded lands and forest patches.

Outcomes and Achievements

- Over 5,000 trees planted across campus and peripheral areas between 2022–2024.
- Increased community engagement through plantation drives, soil conservation training, and awareness campaigns.
- Significant reduction in use of non-biodegradable materials and improved green cover across the University.

Metric 15.3.2 – Monitoring IUCN and Other Conservation Species (Policies)

Teerthanker Mahaveer University (TMU) acknowledges the critical role of biodiversity conservation and aligns its environmental policies with global and national frameworks such as the IUCN Red List and India's Wildlife Protection Act. Recognizing that several species of flora and fauna may inhabit areas in and around the university's operational zones, TMU has established a formal policy framework to identify, monitor, and protect threatened species, ensuring their natural habitats are preserved and maintained.

Initiatives and Activities:

- **Biodiversity Mapping:** Faculty and students from the Department of Zoology and Botany conduct annual biodiversity mapping exercises in and around the campus, focusing on native tree species, birds, small mammals, reptiles, and insects.
- **Collaborations:** TMU collaborates with the Uttar Pradesh Forest Department and local NGOs for technical support in identifying and classifying species found in nearby forest patches and wetlands.





- **Conservation Measures:** Based on survey findings, habitat zones—such as green belts, tree groves, and wetland patches—are designated as “Biodiversity Protection Areas” within campus boundaries to ensure minimal disturbance.
- **Awareness Drives:** Student groups and faculty regularly conduct awareness activities to educate the campus community about local endangered and vulnerable species, their ecological significance, and ways to support their conservation.

Outcomes:

- A comprehensive species inventory has been developed, documenting flora and fauna present on campus and nearby areas.
- Regular monitoring has led to identification of several bird species.
- Conservation zones have been marked and integrated into the university’s green campus master plan, ensuring developmental activities do not disrupt critical habitats.

Impact:

The implementation of this policy demonstrates TMU’s proactive role in biodiversity stewardship. By aligning institutional operations with conservation frameworks, the university contributes to national biodiversity targets and SDG 15 (Life on Land). The policy-driven approach ensures sustained monitoring and protection of species, fostering ecological balance in and around the campus.

Metric 15.3.3 – Local Biodiversity Included in Planning and Development

Teerthanker Mahaveer University (TMU) integrates local biodiversity considerations into all major planning and development processes. Recognizing that sustainable infrastructure development should coexist with ecological preservation, TMU has embedded biodiversity-sensitive measures into the design, approval, and implementation stages of new construction and landscaping projects. This approach ensures that the university’s physical expansion aligns with its commitment to environmental stewardship and SDG 15 – Life on Land.





Initiatives and Activities:

- **Environmental Impact Assessment (EIA):** All major construction or infrastructure projects on campus undergo an internal environmental screening to assess potential impacts on local biodiversity, particularly vegetation cover, nesting sites, and wetland areas.
- **Planning Guidelines:** TMU has issued Campus Development Guidelines that mandate preservation of native trees and water bodies during site preparation and construction. These guidelines are followed by the Engineering Department and reviewed by the Environmental Cell before project approvals.
- **Green Belt Preservation:** Areas identified as biodiversity hotspots (e.g., tree groves, herbal gardens, and wetland patches) are excluded from construction zones and demarcated as “no-interference zones.”
- **Native Plantation Integration:** For new buildings and campus extensions, the landscaping plans prioritize native plant species to support local birds, pollinators, and other wildlife.
- **Expert Consultation:** TMU collaborates with environmental experts and the Forest Department to guide biodiversity-sensitive planning, including relocation of non-critical shrubs and preservation of mature trees.

Outcomes:

- Zero biodiversity-sensitive zone encroachment has been maintained in 2024 during major infrastructure expansions, including new academic blocks and residential facilities.
- Over 500 native tree saplings were integrated into landscaping designs for newly developed zones, ensuring habitat continuity for local fauna.
- Site-specific biodiversity mapping was completed before initiating construction projects, helping planners avoid sensitive ecological areas.

Impact:

Through systematic integration of biodiversity considerations into campus planning, TMU has established a model for sustainable campus development. This approach minimizes habitat disruption, preserves ecological corridors, and enhances green cover, aligning infrastructure





growth with biodiversity conservation principles. Such measures contribute to achieving SDG 15.3 (Protecting terrestrial ecosystems) and reinforce TMU's role as an environmentally responsible institution.

Metric 15.3.4 – Alien Species Impact Reduction (Policies)

Teerthanker Mahaveer University (TMU) recognizes the ecological threat posed by invasive alien species to native biodiversity, campus ecosystems, and surrounding habitats. In alignment with national biodiversity frameworks and SDG 15 targets, TMU has established a policy to monitor, manage, and reduce the impact of alien plant and animal species on campus. This policy emphasizes prevention, early detection, and sustainable management to preserve local ecological balance.

Initiatives and Activities:

- **Policy Implementation:** In 2021, TMU's Environmental Cell introduced the Alien Species Management Policy, which outlines procedures for identifying invasive species, periodic monitoring, and adopting eco-friendly removal practices.
- **Campus Surveys:** The Department of Botany and Environmental Studies conducts biannual ecological surveys to identify the presence of alien plant species such as *Parthenium hysterophorus* (Congress grass) and *Lantana camara*, which are known to disrupt native vegetation and pollinator activity.
- **Removal and Control Drives:** Regular campus clean-up and removal drives are organized with the participation of NSS volunteers and student eco-clubs to manually remove invasive species from green belts, herbal gardens, and open spaces.
- **Native Replantation:** Areas cleared of alien species are immediately replanted with native vegetation, ensuring ecosystem recovery and preventing reinfestation.
- **Awareness and Training:** Training sessions for gardeners, landscape maintenance staff, and students are conducted to help them identify invasive species and understand their ecological impact.





Outcomes:

- A systematic monitoring mechanism is in place to detect and respond to alien species presence promptly.
- Several patches of campus green areas previously dominated by *Parthenium* and *Lantana* were successfully cleared and restored with indigenous species.
- Improved biodiversity indicators have been observed in restored areas, with increased native pollinator activity and plant diversity.

Impact:

Through the adoption of this policy, TMU has strengthened its capacity to protect native ecosystems and support biodiversity by minimizing the spread and impact of invasive alien species. This approach contributes directly to SDG 15.8, which focuses on preventing the introduction and significantly reducing the impact of invasive alien species on land ecosystems.

Metric 15.3.5 – Collaboration for Shared Land Ecosystems

Teerthanker Mahaveer University (TMU) actively collaborates with local communities, government departments, and environmental organizations to conserve and sustainably manage shared land ecosystems in the Moradabad region. Recognizing that biodiversity preservation and land ecosystem health require collective action, TMU has initiated and supported multiple joint programmes that focus on afforestation, land restoration, soil conservation, and protection of native flora and fauna.

Initiatives and Activities:

- **Community Plantation Drives:** TMU, through its NSS Unit, Environmental Cell, and College of Agricultural Sciences, has partnered with village panchayats and the Forest Department to conduct regular plantation drives in adjoining villages such as Bajpur, Majhola, and Khushhalpur. These drives emphasize planting native and drought-resistant species to improve green cover and restore degraded patches of land.





- **Joint Land Restoration Activities:** Faculty and students collaborate with local farmers to promote soil conservation techniques, including contour bunding, organic composting, and protection of shelterbelts to reduce erosion and improve soil fertility.
- **Wetland–Land Interface Management:** In areas where wetlands meet agricultural land, TMU works with local stakeholders to manage buffer zones that support biodiversity and reduce land degradation.
- **Awareness Programmes:** Regular outreach activities such as environmental education camps, farmer meetings, and school sessions are conducted to spread knowledge on sustainable land use practices, native species preservation, and ecosystem services.
- **Collaboration with Forest and Agriculture Departments:** TMU maintains formal collaborations to implement tree plantation schemes, biodiversity mapping, and joint monitoring of shared land ecosystems surrounding the campus.

Outcomes:

- Over 3,000 saplings of indigenous species were planted in 2024 through joint community efforts, significantly contributing to local greening and land rehabilitation.
- Soil conservation interventions have led to visible improvement in soil retention in some community-managed patches.
- Awareness campaigns have increased community participation in ecosystem conservation initiatives, with a notable rise in volunteer involvement from nearby villages and schools.

Impact:

Through these collaborative initiatives, TMU has become a key regional partner in maintaining shared land ecosystems, enhancing biodiversity, and promoting sustainable land use practices. These efforts strengthen community ownership, build ecological resilience, and contribute directly to SDG 15 targets, particularly those addressing land degradation neutrality and biodiversity preservation.





Metric 15.4.1 – Water Discharge Guidelines and Standards

Teerthanker Mahaveer University (TMU) has established comprehensive water quality standards and discharge guidelines to ensure that all wastewater generated within the campus is treated and disposed of responsibly. These guidelines are designed to uphold water quality, thereby protecting surrounding terrestrial and aquatic ecosystems, wildlife, and human health. TMU's water discharge policy aligns with the Central Pollution Control Board (CPCB) norms and supports the university's broader environmental management strategy under SDG 15 (Life on Land) and SDG 6 (Clean Water and Sanitation).



Sewage Treatment Plant

Initiatives and Activities:

- **Implementation:** In 2024, TMU formally adopted Water Quality and Discharge Standards as part of its Environmental Management. These standards cover permissible levels of pH, total suspended solids (TSS), biological oxygen demand (BOD), and chemical oxygen demand (COD), ensuring compliance with national pollution control regulations.
- **Sewage Treatment Plants (STPs):** The university operates modern STP facilities on campus for the treatment of domestic wastewater. The treated water is reused for





landscaping, gardening, and flushing, significantly reducing freshwater demand and preventing untreated discharge.

- **Regular Monitoring:** The Environmental Cell conducts periodic water testing at discharge points to ensure effluent quality remains within prescribed limits. Testing is done in accordance with CPCB and State Pollution Control Board standards.
- **Stormwater Management:** TMU has implemented rainwater harvesting systems and stormwater drains that separate clean rainwater from treated effluent, reducing the risk of contamination to surrounding land and ecosystems.
- **Staff Training and Compliance:** Technical staff and facility management teams receive training on proper operation of treatment plants and adherence to discharge guidelines.

Outcomes:

- 100% compliance with CPCB discharge norms was maintained throughout 2024, verified through regular monitoring and third-party testing.
- Treated wastewater was fully utilized within the campus for non-potable purposes, resulting in zero direct discharge into surrounding land or water bodies.
- Improved quality of runoff water around campus has helped protect nearby terrestrial and wetland ecosystems, reducing risks of pollution-related degradation.

Impact:

By enforcing water discharge standards and ensuring sustainable wastewater management, TMU safeguards local soil and water health, minimizes contamination risks to land ecosystems and wildlife, and contributes to long-term ecological resilience in the region. This policy demonstrates the university's proactive commitment to environmental protection and compliance with national regulations.





Metric 15.4.2 – Policy on Plastic Waste Reduction

Teerthanker Mahaveer University (TMU) recognizes that plastic waste poses a major threat to terrestrial ecosystems, soil quality, wildlife, and human health. In alignment with India's Plastic Waste Management Rules (2016, amended) and its institutional commitment to sustainable development, TMU has implemented a comprehensive policy to reduce plastic waste generation and promote responsible disposal. This policy supports broader environmental goals under SDG 15 (Life on Land) by minimizing the impact of non-biodegradable waste on the surrounding land ecosystems.

Initiatives and Activities:

- **Plastic Waste Reduction Policy:** In 2021, TMU formalized a Plastic-Free Campus Policy, which outlines clear strategies for reducing single-use plastic, promoting alternatives, and ensuring scientific disposal of unavoidable plastic waste.
- **Ban on Single-Use Plastics:** The policy prohibits the use of single-use plastic items such as disposable cups, cutlery, straws, and polythene bags within academic, residential, and administrative areas.
- **Awareness Campaigns:** Regular campus-wide campaigns, including “Say No to Plastic” drives, student rallies, and eco-workshops, are conducted through NSS, Environmental Cell, and student clubs to build awareness and encourage behavioral change.
- **Alternative Solutions:** TMU encourages the use of cloth bags, steel bottles, biodegradable containers, and other sustainable alternatives in canteens, hostels, and university events.
- **Segregation and Recycling:** Dedicated collection bins for plastic waste are installed across the campus, and plastic waste is segregated at source. TMU collaborates with authorized recyclers and local municipal bodies to ensure proper disposal and recycling.
- **Green Event Guidelines:** All university functions and student events follow “Green Protocols”, which restrict plastic decorations, packaging, and disposables, ensuring environmentally responsible event management.





Signages in the University Indicating No Use of Plastics

Outcomes:

- A significant reduction in single-use plastic usage has been observed across campus facilities since the implementation of the policy.
- Over 5,000 students and staff have actively participated in awareness and clean-up campaigns in 2024.
- More than 1.2 tons of plastic waste collected during the year was successfully diverted from landfills through authorized recycling partnerships.
- University events have largely transitioned to plastic-free models, setting an example for surrounding institutions and communities.





Impact:

Through this policy, TMU has effectively reduced the plastic waste footprint on campus, minimized environmental pollution, and promoted sustainable lifestyle practices among students and staff. These efforts support ecosystem health, prevent soil contamination, and reduce risks to land-dwelling species, thereby directly contributing to SDG 15 (Life on Land) and national plastic reduction goals.

Metric 15.4.3 – Policy on Hazardous Waste Disposal

Teerthanker Mahaveer University (TMU) recognizes that hazardous waste poses significant risks to land ecosystems, biodiversity, and human health if not managed responsibly. In alignment with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 of the Ministry of Environment, Forest and Climate Change (MoEFCC), TMU has implemented a comprehensive policy and procedures for the safe handling, storage, treatment, and disposal of hazardous waste. This policy aims to minimize environmental contamination and uphold the university's commitment to SDG 15 – Life on Land, ensuring that hazardous substances do not adversely affect surrounding land and soil ecosystems.

Initiatives and Activities:

- **Hazardous Waste Management Policy:** In 2021, TMU formalized a Hazardous Waste Disposal Policy, applicable to all academic departments, laboratories, medical facilities, and maintenance units. The policy clearly outlines responsibilities, segregation protocols, labeling, temporary storage, and authorized disposal mechanisms.
- **MoU:** The University has signed MoU with SP Green Light Environment Waste Management LLP, 1st Floor, Tiwari Market, Opp Ram Janki Mandir, Bareilly – 243001 for the collection & disposal of biomedical waste.
- **Segregation at Source:** Hazardous waste such as laboratory chemicals, biomedical waste, electronic waste, and maintenance by-products (e.g., oils, batteries, paints) are segregated at the point of generation. Designated containers and labeling systems are used to avoid mixing with general waste.





- **Secure Storage Facilities:** The university maintains secure storage areas for temporarily holding hazardous waste in compliance with regulatory standards, ensuring no leakage or contamination of soil and surrounding land.
- **Authorized Disposal:** TMU has formal arrangements with authorized treatment, storage, and disposal facilities (TSDF) and certified recyclers for the periodic collection and safe disposal of hazardous waste in line with legal norms.
- **Biomedical Waste Management:** TMU's medical college and hospital strictly follow the Biomedical Waste Management Rules (2016), ensuring segregation, treatment through incineration or autoclaving, and authorized disposal.
- **E-waste Management:** TMU partners with authorized e-waste recyclers to manage electronic waste responsibly, minimizing soil contamination risks from heavy metals.
- **Training and Compliance Monitoring:** Regular training sessions for laboratory staff, facility managers, and housekeeping teams are conducted to ensure compliance with safe handling and disposal protocols. Periodic audits are carried out by the Environmental Cell.

Outcomes:

- 100% segregation and authorized disposal of hazardous waste was achieved across laboratories, hospital units, and maintenance departments in 2024.
- Regular collection and disposal schedules have significantly reduced the risk of illegal dumping or accidental soil contamination.
- Increased staff awareness and compliance have resulted in safer campus operations and a more environmentally responsible culture.

Impact:

Through the implementation of a structured hazardous waste disposal policy, TMU ensures that hazardous substances are managed in a manner that protects soil quality, terrestrial ecosystems, and human health. This proactive approach prevents ecological degradation, supports regulatory compliance, and demonstrates the university's commitment to environmentally sustainable practices under SDG 15.





Conclusion

Teerthanker Mahaveer University (TMU) demonstrates a strong institutional commitment to the conservation, restoration, and sustainable use of terrestrial ecosystems through integrated academic, operational, and community engagement initiatives. The university's approach combines scientific research, environmental planning, and participatory action to address land degradation, biodiversity loss, and ecosystem fragmentation in the surrounding region.

Strategic activities such as large-scale plantation drives, green campus initiatives, and soil conservation practices contribute to improved terrestrial ecosystem health within and beyond the campus boundaries. Through student-led environmental programmes, NSS activities, and Eco Club initiatives, TMU fosters environmental stewardship and cultivates ecological awareness among youth and local communities.

The university's Environmental Cell plays a central role in monitoring land use practices, promoting sustainable agriculture, and aligning infrastructural development with ecological preservation. Collaborative engagements with local communities, forest departments, and municipal bodies strengthen the university's role as a regional partner in ecosystem conservation and sustainable land management.

Academic departments integrate biodiversity studies, sustainable land use research, and conservation-focused curricula to ensure long-term capacity building and knowledge dissemination. Regular monitoring and documentation help assess progress, identify gaps, and guide adaptive strategies for land restoration.

Through these sustained efforts, TMU contributes meaningfully to the global objectives of SDG 15 – Life on Land, emphasizing the protection of forests, the promotion of biodiversity, and the rehabilitation of degraded lands. By linking policy, practice, and education, TMU stands as a model for higher education institutions advancing environmental sustainability at the local and regional levels.





TEERTHANKER MAHAVEER UNIVERSITY

Moradabad

Accredited with NAAC **A** Grade

12-B Status from UGC

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