



विवेकख्यातिरविप्लवा हानोपायः

SIKKIM ALPINE UNIVERSITY

Kamrang, Namchi, South Sikkim – 737126

(Established under Sikkim Alpine University Act, 2021)

SOLID WASTE MANAGEMENT POLICY

(Revised as per SWM Rules 2016)





SIKKIM ALPINE UNIVERSITY
KAMRANG, NAMCHI, SIKKIM-737126

SOLID WASTE MANAGEMENT POLICY

(Revised as per SWM Rules 2016)

1. Introduction

Scientific waste management is essential for achieving global cleanliness, environmental sustainability, public health protection, and resource conservation. Waste management encompasses the entire process of waste generation, segregation, storage, collection, transportation, treatment, and disposal.

As a responsible higher education institution, Sikkim Alpine University (SAU) recognizes its duty to promote environmental sustainability through scientific waste management practices and awareness among students, staff, and stakeholders.

This policy is aligned with the provisions of the **Solid Waste Management Rules, 2016**, notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India.

2. Policy Statement

Sikkim Alpine University is committed to developing a sustainable campus by integrating eco-friendly practices in waste management, energy use, water conservation, biodiversity protection, and land utilization.

The University adopts the principle of “**Zero Waste Campus**” through the philosophy of **5R's: Refuse, Reduce, Reuse, Repurpose, and Recycle**.

This policy applies to all stakeholders including students, faculty, staff, contractors, visitors, and vendors operating within the campus.

3. Policy Objectives

- Minimize generation of waste, especially plastic and hazardous materials



- Promote reduction in use of disposable items
- Maximize reuse and recycling of waste
- Ensure safe handling and disposal of all waste streams
- Implement sustainable resource management practices based on 5R principles
- Comply with **Solid Waste Management Rules, 2016** and other applicable environmental regulations
- Monitor and measure waste generation and disposal
- Promote technological interventions for eco-friendly waste management
- Enhance environmental awareness and participation

4. Legal Framework

This policy is framed in compliance with:

- **Solid Waste Management Rules, 2016 (India)**
- **Plastic Waste Management Rules, 2016 (Amended)**
- **E-Waste Management Rules, 2016**
- **Bio-Medical Waste Management Rules, 2016**
- Guidelines issued by State Pollution Control Board

5. Guiding Principles and Responsibilities

A. Waste Minimization

The University shall prioritize reduction at source, followed by reuse, recycling, recovery, and responsible disposal.

B. Segregation at Source (Mandatory as per SWM Rules 2016)

All waste generators must segregate waste into:

- **Biodegradable (Green Bin)**
- **Dry Waste (Blue Bin)**
- **Domestic Hazardous Waste (Red/Black Bin)**

C. Reuse and Recycling

- Maximum emphasis shall be placed on reuse and recycling of materials wherever feasible.

D. Energy Recovery and Resource Efficiency

- The University will promote efficient resource use and explore waste-to-energy opportunities.

E. Environmentally Sound Disposal

- Waste that cannot be reused or recycled will be disposed of through authorized methods.

F. Environmentally Responsible Procurement

- Preference will be given to eco-friendly, recyclable, and sustainable products.

G. Awareness and Capacity Building

- Regular awareness programs, workshops, and campaigns will be conducted.



6. Management and Organizational Structure

- A Waste Management Committee shall be constituted by the Board of Management
- Committee shall consist of:
 - Minimum 4 faculty/staff members
 - One external expert in waste/environment management
- Tenure: 3 years
- Responsibilities:
 - Policy implementation
 - Monitoring and reporting
 - Coordination with Pollution Control Board and agencies

7. Action Plan and Waste Management Strategies

7.1 Collection and Segregation

- Installation of color-coded bins across campus
- Segregation at source strictly enforced
- Designated storage and processing areas

7.2 Biodegradable Waste Management

- Composting through vermicomposting using *Eisenia fetida*
- Use of organic waste for campus agriculture and tea plantation

7.3 Food Waste Management

- Collection and reuse as animal feed in authorized farms

7.4 Dry Waste and Plastic Waste

- Segregation and sale to authorized recycling agencies
- Ban/restriction on single-use plastics (As per Govt. Rules)

7.5 Incineration

- Controlled incineration for specific non-recyclable waste
- Compliance with emission standards
- Agreement with Namchi Municipal Corporation for collection of waste from the campus

7.7 Liquid Waste Management

- Wastewater treatment through natural and biological processes
- Use of filtration chambers (gravel, sand, charcoal)
- Reuse where feasible

7.8 Hazardous and Chemical Waste (As per Lab Rules)

- Safe storage and segregation
- Treatment through filtration systems
- Disposal via authorized agencies and Pollution Control Board



7.9 Biomedical Waste

- Managed as per Biomedical Waste Management Rules, 2016
- Handled through authorized biomedical waste handlers

7.10 E-Waste Management

- Collaboration with authorized PRO
- Awareness drives and periodic collection

7.11 Construction & Demolition Waste

- Stored separately and disposed through approved channels

8. Compliance with SWM Rules 2016

The University shall:

- Ensure segregation at source
- Avoid littering and open dumping
- Promote composting of biodegradable waste
- Hand over recyclable waste to authorized recyclers
- Maintain records of waste generation and disposal
- Facilitate waste processing within campus as far as possible
- Prohibit burning of waste in open areas

9. Monitoring and Reporting

- Regular audits of waste generation and disposal
- Annual environmental performance report
- Documentation and compliance reporting to authorities
- Green audit with reported ISO certified campus

10. Conclusion

Sikkim Alpine University is committed to becoming a **model green campus** by adopting sustainable waste management practices aligned with national regulations and global environmental goals. Active participation from all stakeholders is essential to achieve a **Zero Waste Campus**. Sikkim Alpine University has established a Disaster Risk Reduction (DRR) Club in accordance with the guidelines of UGC and NIDM. One of the key objectives and activities of the DRR Club is to promote waste segregation, composting, and up cycling initiatives aimed at minimizing waste generation.

11. Integration of Waste Management paper/course in UG Curriculum, 2026 session

Sikkim Alpine University recognizes the importance of academic integration of environmental sustainability. In alignment with the Waste Management Policy and national environmental regulations, relevant topics on waste management shall be incorporated into the UG programmes.

12.1 Objectives of Curriculum Integration

- To develop scientific understanding of waste management among students
- To promote environmental responsibility and sustainable practices
- To provide practical exposure to waste handling, recycling, and resource recovery



- To align academic learning with campus sustainability initiatives
- To support compliance with national environmental regulations

12.2 Waste Management in UG Programme

A. Core Areas of Study

- Ecosystem and Environmental Biology
- Biogeochemical Cycles
- Organic Waste Management and Composting
- Vermicomposting
- Solid Waste Management and Plant-Based Remediation
- Phytoremediation and Wastewater Treatment
- Sustainable Agriculture and Organic Farming

B. Practical Components

- Preparation of vermicompost using organic waste
- Study of decomposition processes
- Field visits to composting units and waste treatment facilities
- Analysis of soil quality using compost
- Plantation drives using compost manure

C. Skill Enhancement (As per the Disaster Risk Reduction Club syllabus)

- Organic waste recycling techniques
- Nursery management using compost
- Sustainable land-use practices

12.3 Waste Management in UG Programme

A. Core Areas of Study

- Environmental Biology and Ecology
- Animal-Human-Environment Interaction
- Role of organisms in waste degradation
- Vermiculture and role of earthworms
- Wastewater treatment using aquatic organisms (e.g., fish-based systems like Magur)
- Biomedical Waste Management
- Toxicology and impact of pollutants on fauna

B. Practical Components

- Study of earthworm biology and vermicomposting
- Observation of waste-fed aquaculture systems
- Analysis of water quality and biological indicators
- Visits to waste management and sewage treatment facilities
- Case studies on pollution impact on biodiversity



C. Skill Enhancement

- Biological waste treatment methods
- Environmental monitoring techniques
- Handling and segregation of biomedical waste

12.4 Interdisciplinary Activities

- Green Campus Projects (waste audit, recycling drives)
- Student participation in waste segregation initiatives
- Awareness campaigns and community outreach programs
- Collaboration with authorized agencies (e.g., e-waste recyclers)
- Research projects on sustainable waste management

12.5 Expected Learning Outcomes

Students will be able to:

- Understand scientific principles of waste management
- Apply sustainable practices in daily life and profession
- Analyze environmental impact of waste
- Participate in ecological conservation and sustainability initiatives
- Contribute to achieving a Zero Waste Campus

12.6 Evaluation and Assessment

- Internal assessments through practical work /projects (Field reports/case studies)
- Viva-voce/ presentations
- Participation in campus sustainability programs

12.7 Implementation Strategy

- Inclusion of modules in UG courses aligned with NEP 2020
- Introduction of Skill Enhancement Courses (SEC)
- Coordination between academic departments and Waste Management Committee
- Regular curriculum review as per UGC and environmental guidelines

Note: The Waste Management Policy of Sikkim Alpine University will be placed before the Academic Council and the Board of Studies for approval, and for the development of a Solid Waste Management paper/course for the upcoming 2026 UG syllabus as per NEP 2020 norms.



The list of members:

Sl.No.	Name	Designation	Signature
1.	Dr. Pribat Rai, Deputy Director (Academics)	Convenor	Pribat Rai
2.	Dr. Subhankar Gurung, IQAC Coordinator	Member Secretary	Subhankar Gurung
3.	Mr. Satyam Dixit, Registrar	Member	Satyam Dixit
4.	Mr. Dawa Sherpa, Faculty	Member	Dawa Sherpa
5.	Ms. Tabbasum Banu, Faculty	member	Tabbasum

