GLOBAL ACADEMIC ASSESSMENT CONSORTIUM
"Academic Assessment Towards Excellence"

GREEN (ENVIROMENTAL)

and

Energy

AUDIT REPORT

For SRM University Delhi-NCR, Sonepat

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ACKNOWLEDGEMENT

Global Academic Assessment Consortium (GAAC) appreciates and expresses sincere thanks to the Management and Employees of **SRM University, Delhi-NCR, Sonepat** for their help without which the "Green (Environmental) and Energy Audit" could not have been possible. The courtesy extended to our Audit Team is highly appreciated.

The audit team were assisted and guided by the personnel SRM University Delhi-NCR, Sonepat during the audit. Following were the key coordinating personnel from **SRM University, Delhi-NCR, Sonepat.**

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PREAMBLE

Global environmental issues are ever increasing with excess utilization of natural resources by humans. In order to overcome environmental challenges, it is necessary to adopt sustainable environmental practices to minimize the negative impacts of the various campus operations on the environment. SRM UNIVERSITY DELHI-NCR, SONEPAT is spread across 47.38 acres of land with sustainable environmental practices adopted for optimum utilization of natural resources.

SRMUH aspires to play a crucial role in protecting the environment in all respects through outreach and partnering with wider community in developing a sustainable future. In accordance with this broad vision focusing on developing practices for societal good, the SRMUH has developed Environment Sustainability, Green Campus Policy, Waste Management Policy which affirm its commitment to recognizing environment and sustainability related issues at campuses and demonstrates its intention to address those issues through continual improvement in developing sound environmental policies and safe operational and sustainable practices. As a part of SRMUH Environmental Policies, the University offers programs and courses on Environmental Sciences aimed at raising environmental consciousness at Undergraduate and Post graduate levels. At the Post graduate level, a two-year M.Sc. program on Environment Sciences was started in 2021. The policies strive to develop periodic assessments of the various resources being utilized at SRMUH by measuring its environmental footprint with regard to key natural resources like energy, water, biodiversity, land use and buildings, solid waste management etc.

SRMUH has adopted strategies for waste, water, energy and biodiversity conservation and management. The wet waste is processed in the biogas plant for biogas and fertilizer generation. There are policies adopted for recycling of plastic, paper and cardboards. There are policies and guidelines for management of solid waste, single use plastic, Biomedical and hazardous waste, E-waste, etc.

Renewable energy sources are harnessed to fulfill the energy requirements of the campus. Energy conservation is given utmost priority within the campus. Solar energy is utilized by most of lightening load. The terraces have solar panels installed for utilizing the solar energy up to the maximum potential. For efficient energy utilization the University have 100 % LED lights installed at the campus to decrease the conventional energy consumption.

Importance of water conservation is recognized, and steps are taken to minimize the water consumption by recycling and economical usage. SRMUH have rain harvesting mechanisms installed for recharging the underground water levels. Also, regular monitoring of waterconsumption is done to ensure economic water usage. Wastewater is treated through STP's and the treated water is reused at the campus for water conservation.

The aesthetics of the campus is maintained by planting ornamental, annual, biennial and perennial plants indoor and outdoor. Inventory of all the plants with their botanical names is maintained and updated regularly. University campus has a biodiversity cell to study, collect data and document all biodiversity conservation related matters in 47.38 acres of the campus and surrounding areas. The University has conducted several tree plantations drives to enhance the biodiversity value of the region. The University encourages students and staff members to travel by the buses provided and minimize the use of personal vehicles to decrease the air pollution and noise pollution.

OBSERVATIONS

DEFINITIONS

Environment Management System

The part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

Environmental Impact

Any change to the environment, whether adverse or beneficial, wholly, or partially resulting from an organizations activity, products or services.

Green (Environmental) Audit

Green (Environmental) Audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity.

Air Quality

Air quality is the degree to which air is suitable enough for humans, animals, or plants to remain healthy

Noise Pollution

Noise pollution is generally defined as regular exposure to elevated sound levels that may lead to adverse effects in humans or other living organisms

Water Audit

Water Audit is a qualitative and quantitative analysis of water consumption to identify means of reducing, reusing and recycling of water.

Solid Waste Management

Solid Waste Management is a term that is used to refer to the process of collecting and treating solid wastes

Energy Audit

An energy audit is an inspection survey and an analysis of energy flows for energy conservation in a building.

SRM UNIVERSITY DELHI-NCR, SONEPAT	**Green (ENVIROMENTAL) and Energy Audit Report FOR SRM UNIVERSITY DELHI-NCR, SONEPAT**	NAAC

i. INTRODUCTION

Green (Environmental) and Energy Audit is a review for management of resources in a way that along with necessary utilization of resources the environment is protected and conserved. The audit also recommends various standard parameters, methods and projects for environmental protection. Green (Environmental) Audit aims at detecting and monitoring the sources of environmental pollution in the campuses and its surrounding. It helps the University to implement the ways to manage waste, energy consumption, water and biodiversity conservation.

As per National Environment Policy 2006, Green (Environmental) Audit is mandatory to each institution. It is recognized that the maintenance of the healthy environment is not the responsibilityof the state alone, but it is the responsibility of every citizen and thus a spirit of partnership is to be realized through the environment management of the country. NAAC (National Assessment and Accreditation Council), an autonomous body under UGC (University Grants Commission) has added the concept of environmental audit in accreditation methodologies of universities and colleges.

INSTITUTIONAL BRIEF DESCRIPTION

SRM University Delhi-NCR Haryana (SRMUH) carries forward the legacy of SRM Group of Institutions. SRM's initiative towards the cause of quality education began in 1969 with the establishment of a primary school and today after five decades of its existence it has 22 institutions and 4 Universities. SRMUH was established as a State Private University under the Haryana Private Universities Act, 2006 (as amended by Haryana Act No. 8 of 2013), in furtherance of the objective of the SRM group to reach out to a greater number of stakeholders in Northern India. The University aims to emerge as a leading world-class educational institution that disseminates knowledge upholding the highest standards of instruction in all fields of study. Along with academic excellence and skills, the University curriculum is developed in a manner to impart experiential learning & life-skills, and, ensures that learners are exposed to various activities, which instill in them social sensitivity, compassion, patriotism, moral, and ethical integrity. Accordingly, when the learners graduate, they merge as citizens who are best suited to serve society and also undertake various leadership duties.

It is a multidisciplinary University with all the privileges and pride to exist and expand as a world-class educational institution. SRMUH is developed in sylvan surroundings amidst lush green fields. The University campus is spread over 47.38 acres of land and has a well-designed architectural layout. Students from over twenty-five different States and UTs of India and various parts of the world study here. At present, the University is offering sixty-eight programmes. The campus is well-equipped with a state-of-the-art infrastructure, laboratories, sports, transport, healthcare, and other educational & recreational facilities. Hostel facility is provided inside the University campus for students (Boys and Girls) as well as staff.

The hostels with the state-of-the-art infrastructure provide an ambience of home away from home. The hostels are spacious, centrally air-conditioned, and well-furnished with attached bathrooms. The hostels are supported by spacious mess where staff and students dine together and it also has recreational amenities like a gymnasium, indoor sports, and cafés.

ii. OBJECTIVE

The objective is to conduct Green (Environmental) and Energy Audit by inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants, the environment. Also, to secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.

iii. SCOPE OF THE AUDIT

The scope of the Green (Environmental) and Energy Audit extended to:

Carry out on-site assessment at SRM University, Delhi-NCR Sonepat

iv. METHODOLOGY

In order to perform Green (Environmental) and Energy Audit, the methodology includes different tools such as preparation of checklist for physical inspection and document review of the campus, observation, appraisal of the documentation, data analysis, measurements and recommendations.

Following are the different sections within the campus assessed for Green (Environmental) Audit-

- **Land and Soil Environment (Biodiversity)**
  Human activities for development and sustenance are the main cause of biodiversity loss. Habitat loss is the significant effect of human interference in ecosystem balance caused by urbanization and overexploitation of resources which further leads to loss of species. In this section the assessment is conducted to note the extent of harm (or risk of harm) posed to the biodiversity by various human activities and campus operations. With respect to Land and Soil environment (biodiversity), a compliance assessment is conducted to review the adherence to enacted legislations by local and central governing authorities for environment protection and commitment of the campus operations for betterment of the environment.
- **Air Quality**
  In air quality assessment the data about sources and extent of air pollution in the campus is studied. The existing internal policies and initiatives for the control of air pollution by the campus administration and its implementation is reviewed based on physical observation and document verification. Adequacy of infrastructure to control air pollutionin the premises is examined.
- **Water Management**
  In assessment of water management strategies of the campus the sources of water and its utilization in the campus is studied. The various initiatives for reducing water usage are examined and the awareness measures for water conservation were observed. The use of recycled water and presence of Sewage Treatment Plants are assessed. The maintenance of STP/ ETP is reviewed to ascertain the functioning of the STP.

- **Noise**

  The noise assessment details are checked to ascertain the effect of noise on the campus environment. The Noise Pollution (Regulation and Control) Rules – 2000 and GRIHA Green Building Manual are considered for deciding the audit parameters for noise criterion.

- **Waste Management**

  The segregation of waste at the source and its disposal is assessed. The internal policies of waste management and its implementation is reviewed. Also, the initiatives for recycling the waste and awareness for proper disposal of waste are checked. Biogas and composting facilities for waste management are assessed to determine their functionality.

- **Energy Management**

  The sources of energy and utilization of renewable energy sources is observed. The energy consumption details of the campus are assessed. The infrastructure for energy conservation and the awareness initiatives for energy conservation are checked. Internal policies for energy management are studied and its implementation is observed.

- **Well-being and social aspects**

  The initiatives for well-being of students and staff at the campus are examined. The various campaigns for societal development are checked.

v. ASSESSMENT REPORT OF SRM UNIVERSITY DELHI-NCR, SONEPAT

TABLE 1

S. NO	DESCRIPTION	OBSERVATIONS
1	**Land and Soil Environment (Biodiversity)**	The campus has flora and fauna with their biodiversity details listed within and around the campus
2	**Air Quality**	There are battery operated electric vehicles shuttled across the campus Moreover, bi-cycles are used within the campus
		Motorized vehicles are restricted within the campus. The students and staffs are encouraged to travel by the buses provided by the University
		There are 3 DG sets available which are under AMC. Ambient Air quality and stack monitoring is conducted on regular basis.
3	**Water Management**	The rainwater harvesting is available in campus.
		The campus has RO's connected to water coolers which are under AMC. The water quality is assessed at every month
4	**Noise**	Noise monitoring is conducted within the campus
5	**Waste Management**	Biodegradable waste generated from the canteen/ mess is utilized for biogas generation.
		E-waste and biomedical waste are disposed through registered vendor
6	**Energy Management**	The campus has LED lights at all the locations which were assessed
		The campus uses 100 kW renewable solar energy in addition to the electricity provided by the state electricity board (UHBWN)
7	**Well Being and Social Aspects**	Healthcare facility is available at the PRIMSR

		Hospital within the campus
		Tree plantation drives were conducted
		Active MOU is in place with M/s YourDOST for online counselling health and well-being of students, faculty and staff.

The detailed Green (Environmental) and Energy Audit Report is attached herewith as Annexure-1.

vi. REFERENCES

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1. Flora in the Campus

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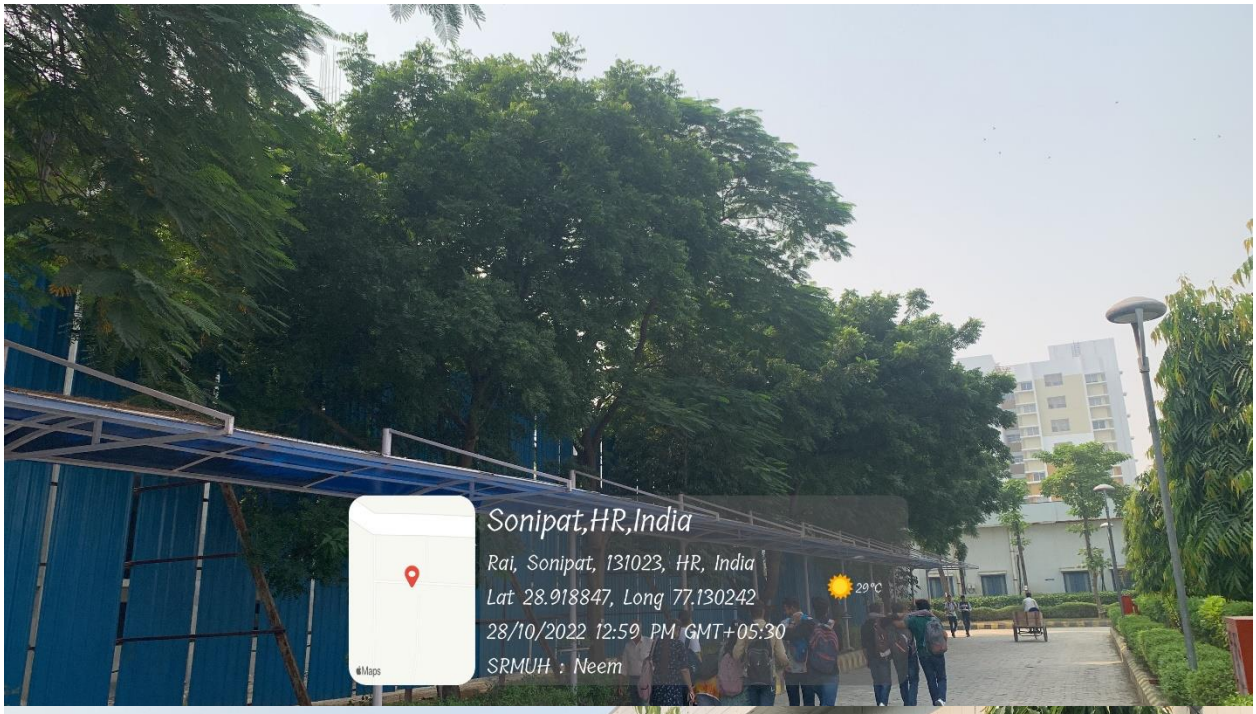

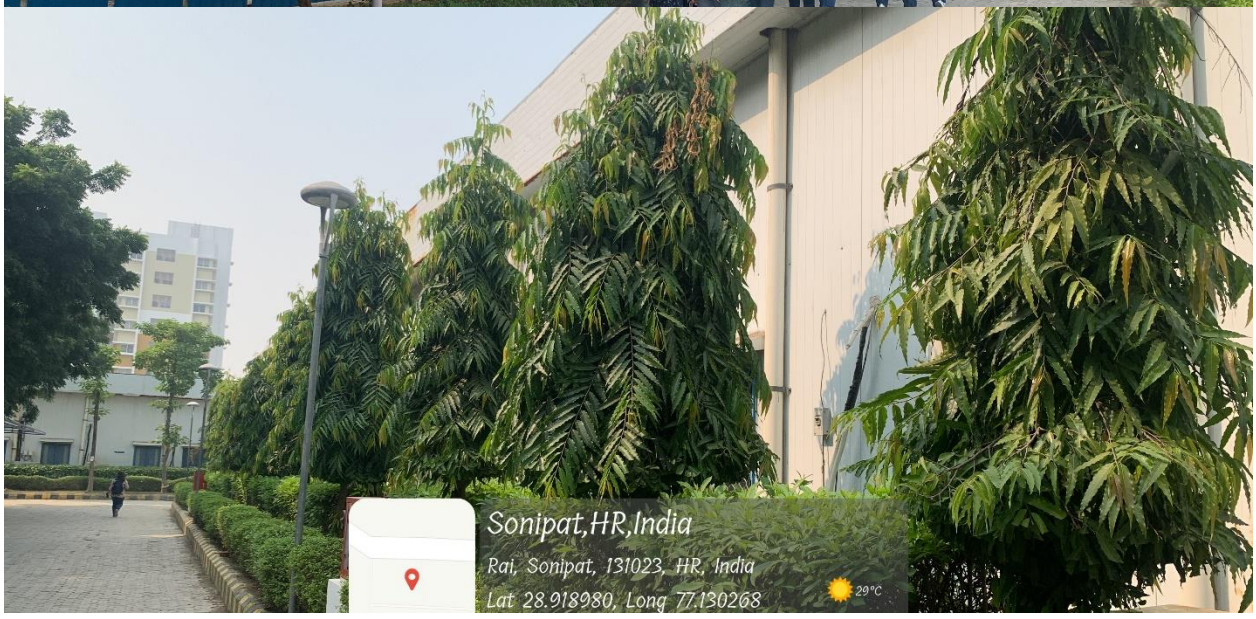

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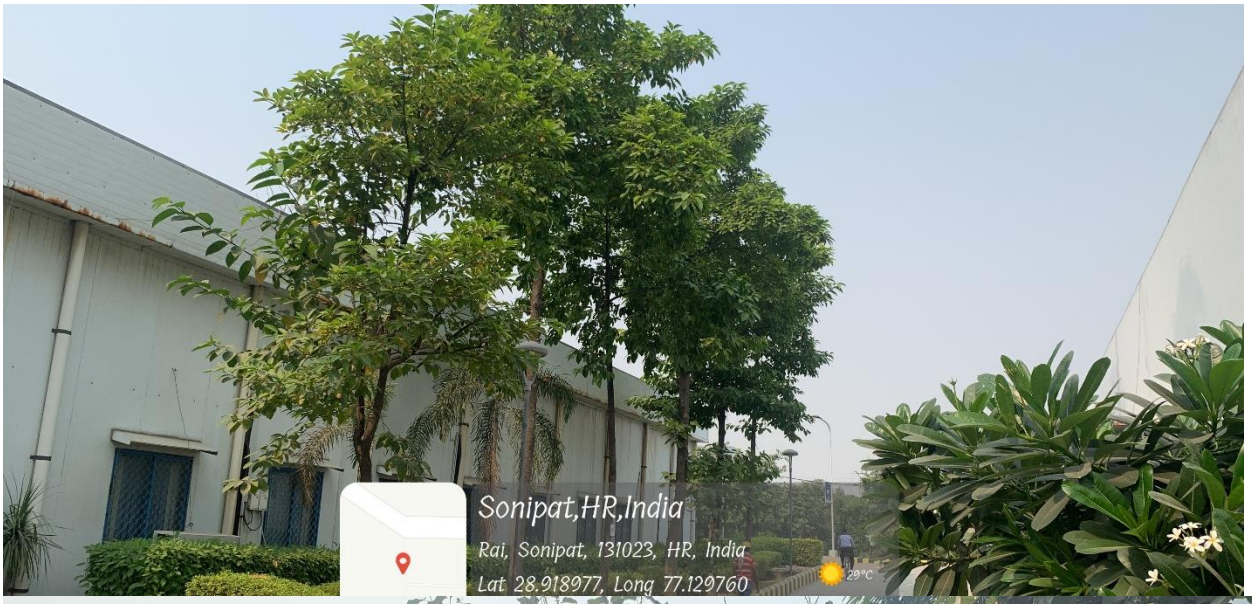

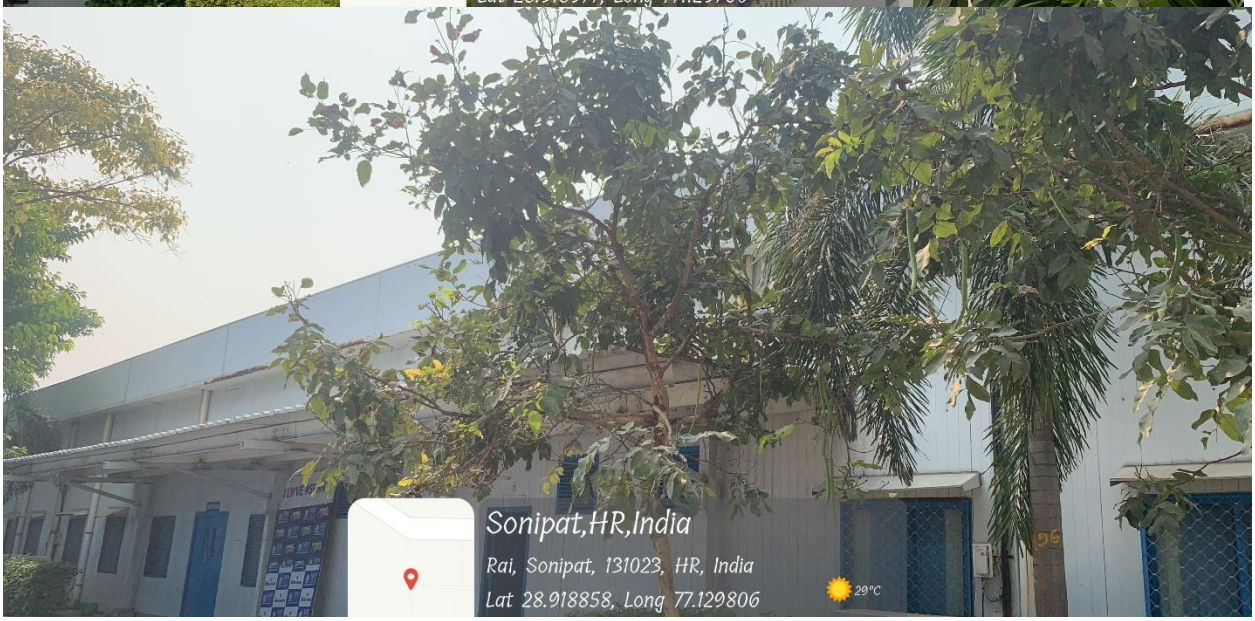

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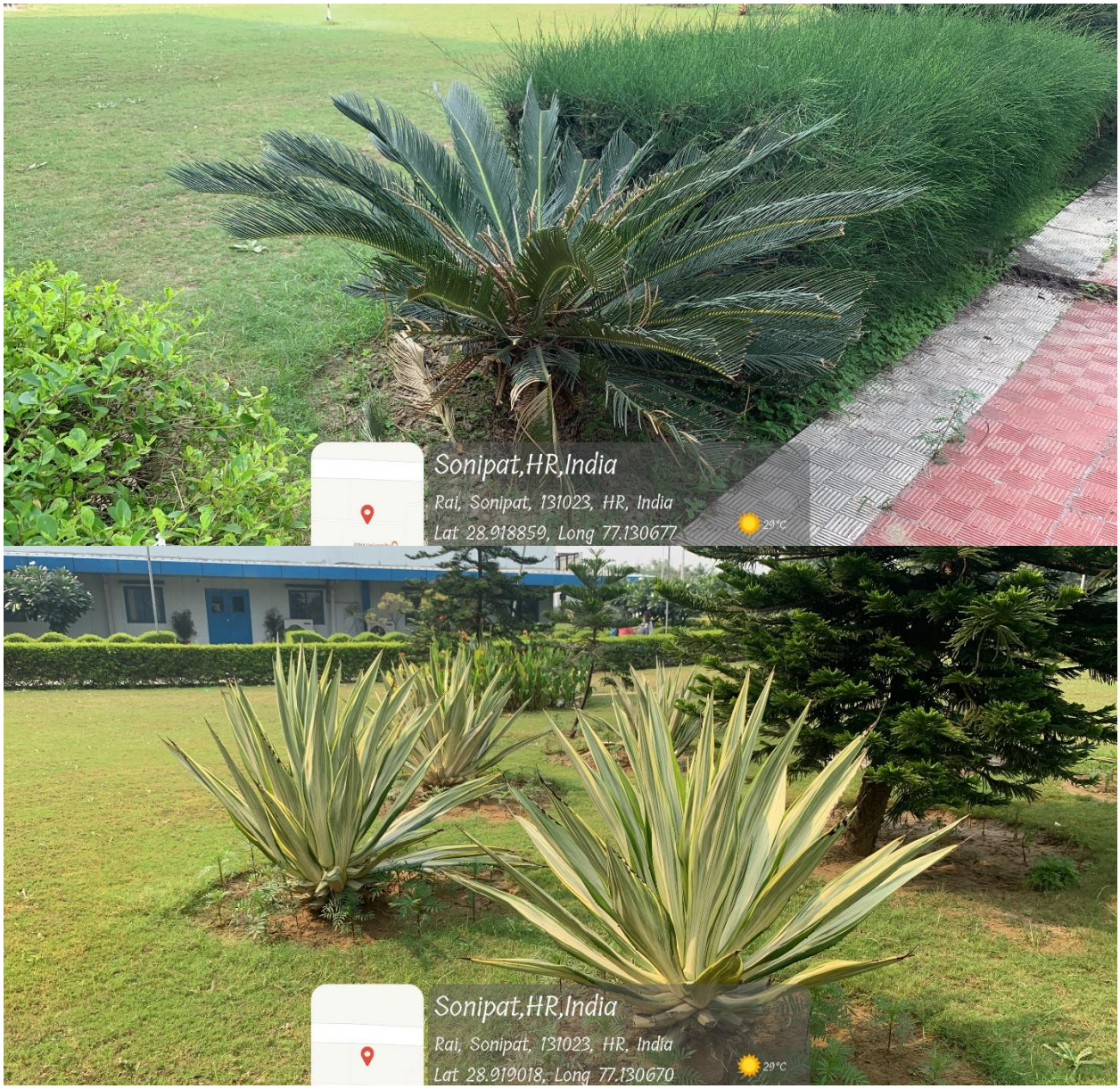

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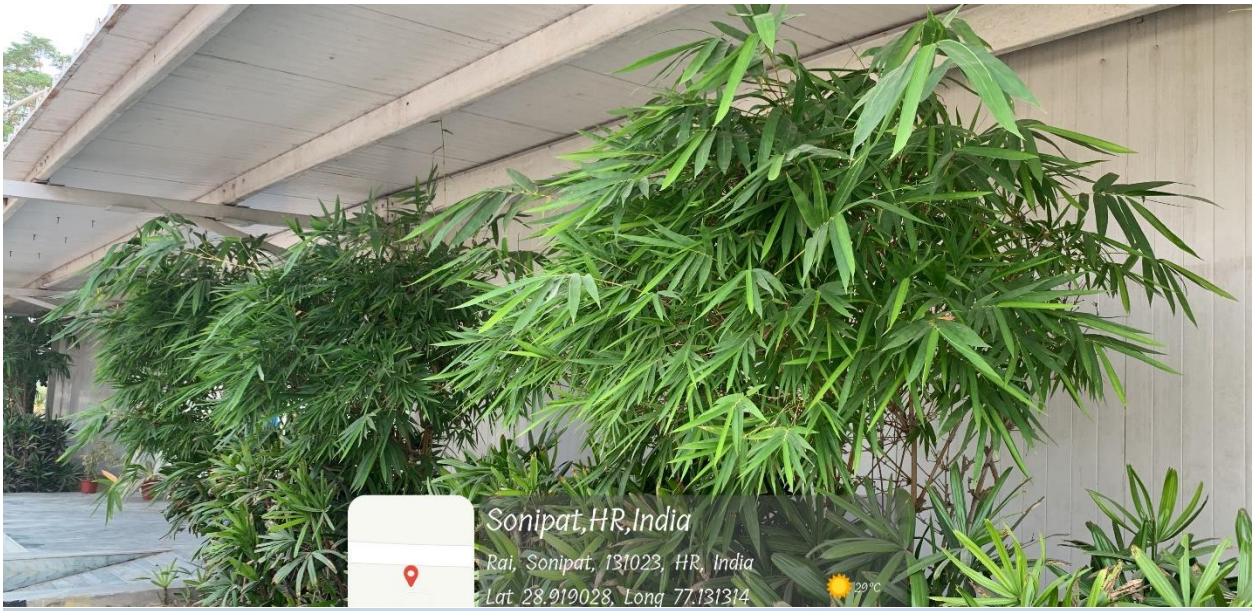

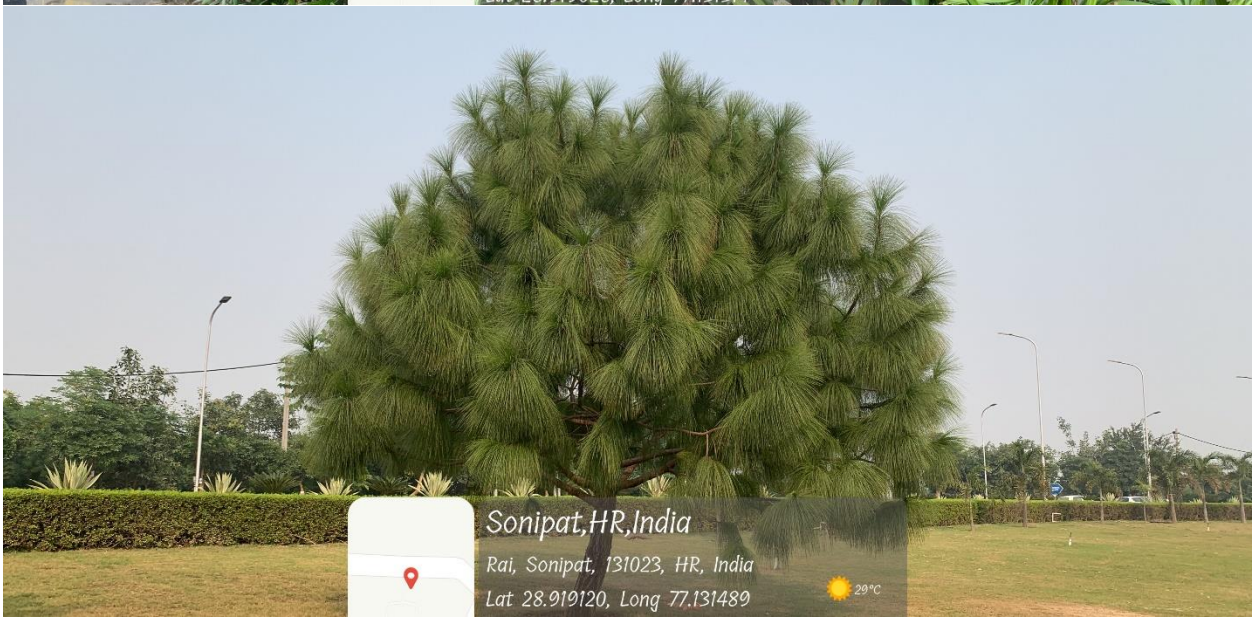

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2. Restricted entry of automobiles

2. Use of Bicycles/ Battery powered vehicles

3. Pedestrian Friendly Pathways

4. Ban on use of Plastic

5. Bio-gas

7. Solar Panel