



# 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



**12.1 Research on responsible consumption and production**

<b>Publisher</b>	<b>Count of Publication</b>
Pubmed	124
SCI	27
Scopus	3060
UGC care	182
Web of Science	563
Other	230
Total	4186

**University Practices**

Sharda University, has a dual status as:

- (i) A microcosm inhabited by about 20000 humans engaged in many diverse activities over an area of mere 63 acres.
- (ii) An institution of higher learning and social change and orientation to impact local and global environment. It is thus necessary that the University adopt and evolve green practices.

**Reduction in use of electricity:**

The University will make all round effort to reduce the amount of electricity consumed for lighting, air-circulation, air-conditioning, lifts, water mining, instruments and other gadgets by the following approaches:

- Create awareness and inculcate the culture of using lights, fans, ACs and lifts only when and where necessary; to switch off the lights and other gadgets when leaving the room for more than five minutes in case of lights and fans and 30 min in case of ACs and to avoid use of lifts for going up lesser than two floors or going down lesser than three floors.
- Occupancy sensors will be installed in common areas to regulate the use of lights and fans when the area is not occupied for more than 3 minutes.

**Innovation and Increase in generation and utilization of renewable energy:**

Presently, the University has extensive solar power generation system producing a total of 1125 MWH per annum and has been awarded as Number One University in Uttar Pradesh in generation

and use of renewable energy. However, the University will harvest twice more solar energy and use it towards replacing traditional grid electricity.

### **Reduction in use of water:**

The most important natural resource sustaining life on earth is water. A lot of water is wasted due to improper usage patterns and inefficient dispensing and storage systems. The following steps are will be taken to reduce the quantity of water used:

Sprinkler and drip irrigation systems are used irrigation of trees/plants/crops/lawns etc., wherever possible.

Water efficient taps/faucets/dispensers will be fitted and used to gradually replace existing ones if inefficient.

Open water storage and channel systems will be avoided.

Waterless urinals will be installed in new buildings.

### **Collection/Recycling/reuse of waste water:**

The University has got rain-water harvesting systems in most buildings and also collects waste water that is treated in a STP plant of 0.40 MLD capacity. The treated water from the STP is used for irrigation purposes. This practice will continue and steps will be taken to further improve the collection and treatment of waste and its reuse.

### **Reduction in generation of biodegradable and non-biodegradable solid waste**

The University generates solid waste of various kinds from the residences, hostels, offices, laboratories, canteens, hospital etc. The University takes steps to reduce the generation of solid waste.

Biodegradable waste is composted through a microbial process.

Four different types of composting system are available on campus.

A biogas plant is also functional.

Reduction in the use of mineral fuels and increased use of electric/solar powered motor vehicles, car-pools and bicycles

### **Recovery and reuse of paper/wood/ metal waste:**

The University offices, faculty and students and on-campus businesses use large amounts of paper. Some of it is not usable as paper, but large amounts of unused paper is also discarded. The University will take steps to recover unused paper and recycle the used paper for product development for educational, artistic or commercial purposes.

Reduction in the use of mineral fuels

Increased use of electric/solar powered motor vehicles,

Car-pools

Bicycles

### **Safer disposal of electronic waste after extraction of useful components:**

Electronic goods in all spheres of life, especially in communications, office equipment, laboratory instruments, televisions, computers, etc. are used. Large amounts plastic, Bakelite, integrated circuits, glass, transistors etc. are generated with discarded with old and defective gadgetry

### **Promotion of awareness of green practices and their importance among students and community:**

Active student groups in each School and Hostels are constituted and coordinated by designated faculty. This activity is linked to the NSS as “Eco-Task Force”.

### **Creative use of solid waste for artistic and architectural designing:**

The students in general and those in the School of Arts and Design are encouraged to use paper pulp, card boards, old wood, metal etc. to create art pieces based on themes related to various aspects of different States of India and other countries.

### **No-Noise Zone:**

The University has extensive teaching zones, laboratories, offices and hospital areas, all of which are intolerant of noise. Therefore, the campus has been declared No-Noise Zone and signs of “No-Horn” and “Silence Zone” are placed strategically.

### **No-Smoking Zone**

The University is a public place and legally smoking tobacco is banned as per law. “No Smoking” notices have been placed at strategic locations.

### **Reduction in Air Pollution:**

- i. There is a ban on the burning of any materials including plant dry matter that emit smoke.
- ii. The dependence on diesel generators is minimized.
- iii. Dust Management - Covers and water spray

### **Introduction of green-building concept in existing and new buildings:**

Most of the existing buildings of the University have large windows and corridor and have large verandahs and open spaces. Thus, the buildings are well ventilated and have good amount of natural lighting, with some exceptions.

### **Aware through Open Electives and Community Courses**

The University may run an open elective course for creating awareness of various green practices and their importance for the environment and conservation of natural resources. The Community Connect Courses will be used to enable the students to learn the sources of pollution and systems for their management as well as to spread awareness on pollution control methods in the community.

### **Reduction in use of electricity:**

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- Switch off the lights and other gadgets when leaving the room for more than five minutes in case of lights and fans and 30 min in case of ACs and to avoid use of lifts for going up lesser than two floors or going down lesser than three floors.
- Occupancy sensors will be installed in more common areas to regulate the use of lights and fans when the area is not occupied for more than 3 minutes.

### **Awareness and Teaching-Learning**

#### **Total Crop Area**

1. Mandela field= 2465.3 m<sup>2</sup>
2. Crop Cafeteria opposite Mushroom house= 3448.6 m<sup>2</sup>

### Activities with students and faculty members

- Crop diversification for food security and sustainability, Collection, cultivation and maintenance of Germplasm (cereals- wheat, rice, maize; vegetables; oil seeds – mustard, ornamentals etc.), Seasonal vegetable production and sale.
- Evaluation of wheat genotypes for yield and yield components, Multiplication of high yielding and disease resistant varieties of wheat with their distribution.
- Analysis of nitrogen use efficiency of rice genotypes
- Use of low cost technologies (polyhouse, micro-irrigation system, biofertilizers)
- Utilization of agricultural wastes for value addition (Mushroom cultivation) and vermicomposting.
- Integrated Farming System.
- Strengthening of molecular biology and biotechnology laboratories
- Up gradation of tissue culture laboratory and hydroponic facility for indigenous and exotic vegetables
- Procurement and Cultivation of *Cordyceps militaris*
- Trainings for skill enhancement and entrepreneurship











### ***Instructional Research Farm and Seed Production***

Cultivation practices, production, processing, grading, packaging and marketing of farm produce

#### **Events**

- Enhanced footprint of Sharda University amongst farming community through Kisan Ghoshti's, Expert Talks and knowledge sharing.
- Trainings/Workshops/Conferences for students, researchers, entrepreneurs and farmers for knowledge and skill improvement.





## Day Care Center for young children at Sharda University

'Little wing's Day Care' is a facility created by the University for high quality child care on campus for the children of faculty members, staff and senior students. Day care facility is being taken care of by senior faculty members. Full time female staff members are working for serving the children of all ages. The children are being taught during their stay time in the Day care facility. Different kinds of useful learning aids are available for the children. Parents of the children are also providing their feedback so as to improve the services regularly.



### Biogas plant:

A biogas power plant is installed to facilitate undergraduate and post graduate students in the study and usage of renewable energy. The 15 cubic meter biogas plant is set up behind Mandela Hostel. Food waste of 100- 300 kgs approx per day drawn from Mess canteens and added with cow dung water mixture is used as raw material. The raw material content takes 3-4 days for biogas formation which is used to regenerate approx. 4KVA electric energy. Thus, food waste is converted into a resource and creating value in the form of electric power generation. The plant is utilizing the recent technology to generate the efficient energy.

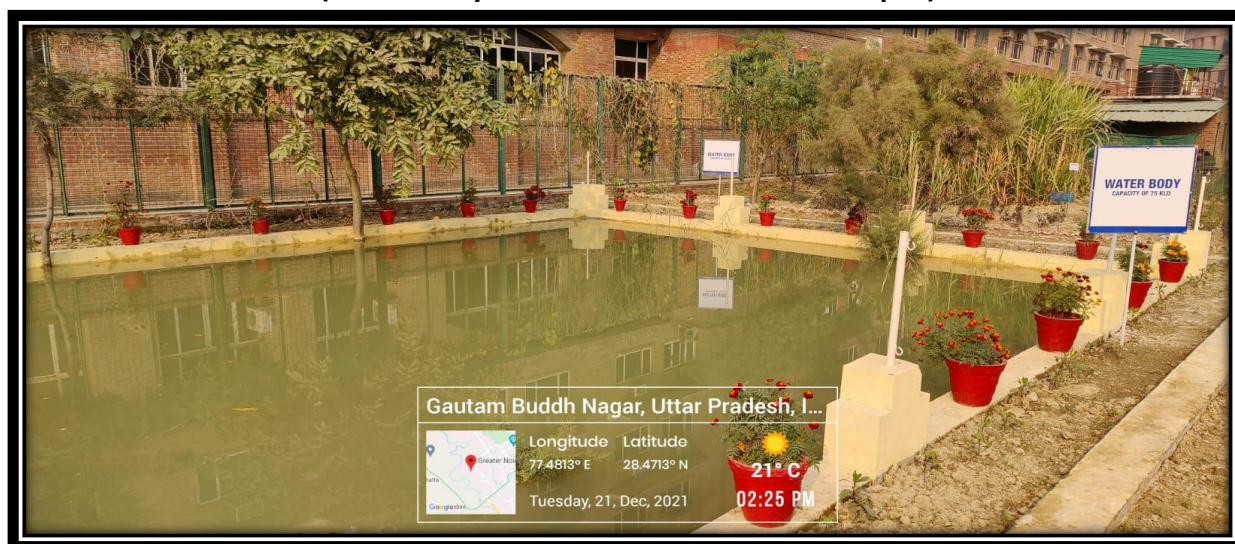


(Biogas Plant near Block 7)

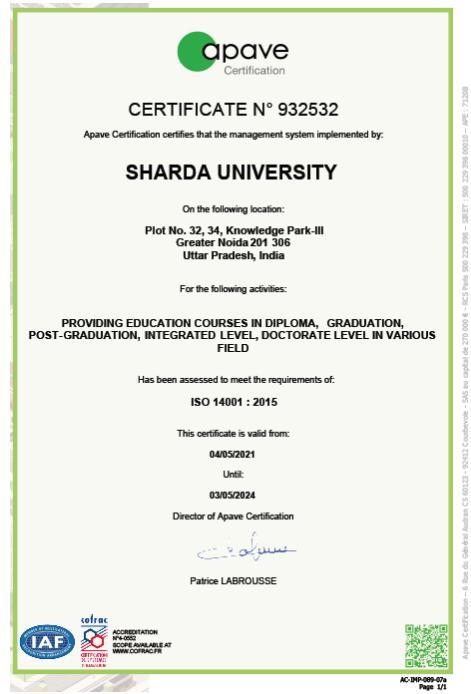
### Maintenance of water bodies

The University maintains a clean and green water body near block 7 to conserve the rain water in a natural way. Presently the capacity of water body to conserve the water is 75KLD. This conserved water is useful to multiple activities such as in agriculture and plantation and recharge of the ground water level. The University intends to further extend this facility across the campus.

(Water body to conserve the water in campus)



ISO Certification



Battery operated vehicles in the campus



### 12.2.3 Hazardous Materials MoUs



### 12.2.4 Landfill Policy

1. Bio- Medical Waste Management
2. Municipal Solid Waste Management
3. E- Waste Management
4. Liquid Waste Management

#### Waste Management Policy

[https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias\\_pdf-2022-2023:criteria\\_7.1.3:Waste\\_Management\\_Policy.pdf](https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_7.1.3:Waste_Management_Policy.pdf)

#### Waste Management Practice

[https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias\\_pdf-2022-2023:criteria\\_7.1.3:Solid\\_waste\\_management\\_practices.pdf](https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_7.1.3:Solid_waste_management_practices.pdf)

### 12.2.5 Plastic Use Minimization

[https://www.sharda.ac.in/attachments/common\\_files/NSS\\_Cell,\\_Sharda\\_University,\\_Activities\\_from\\_01st\\_August\\_2019\\_to\\_31st\\_July\\_2020.pdf](https://www.sharda.ac.in/attachments/common_files/NSS_Cell,_Sharda_University,_Activities_from_01st_August_2019_to_31st_July_2020.pdf)

### 12.3.1 Waste Tracking

#### **Waste Management practices**

[https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias\\_pdf-2022-2023:criteria\\_7.1.3:Solid\\_waste\\_management\\_practices.pdf](https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_7.1.3:Solid_waste_management_practices.pdf)