

**GREEN CAMPUS DEVELOPMENT COMMITTEE,
SHILLONG COLLEGE**



A REPORT

Year: 2017-2023

Shillong College, in its many endeavors has also undertaken initiatives to contribute towards environmental conservation by forming the Green Campus Development Committee (GCDC) which will look into matters relating to the college improving its eco friendliness. The GCDC was established on **26.07.2017** with former vice principal Dr. M Dey as co-ordinator. The GCDC bases its operations and activities under the provisions of the Shillong College Green Policy.

The objectives of the committee are

- To promote environmental awareness and facilitate action so as to work towards creating an environment friendly campus and
- To inculcate responsibility and commitment in students and staff, both at home and in the wider community.

The first meeting of the Green Campus Committee was held on the 26th October 2017 where various discussions were held regarding the matter at hand. It was unanimously agreed that the college is more than willing to move forward in making its campus an eco-centric institution.

The committee will work on the following focal areas.

1. Energy conservation
2. Water conservation
3. Waste Management and
4. Improving greenery and biodiversity in the campus.

ENERGY CONSERVATION

To reduce energy consumption, the college has installed renewable energy sources such as solar power and micro hydropower to meet its energy requirement. SPV offgrid power plant

of 25 Kwp was installed at Shillong College main campus in the year 2017. The power generated from solar power has been able to meet a decent percentage of power requirement by the college annually (Table 1).

Formula:

$$\frac{\text{Annual Power requirement met by renewable energy sources}}{\text{Annual power requirement}} \times 100$$

The Shillong College Mawkasiang campus is completely dependent on renewable sources for meeting its energy requirement. A microhydel power of 3 Kw and SPV offgrid power plant of 5 Kw has been installed at Shillong College Mawkasiang campus.

Use of solar heaters for heating water in the girl's hostel.

Further, to reduce consumption of energy, phasing out of vapour tube lights and CFL bulbs and replacing them with energy efficient LED bulbs and tubes started in the year 2018 and GCDC monitors the progress of the phasing out (Table 2).

Formula:

$$\frac{\text{(Annual Lighting power requirement met through LED bulbs)}}{\text{Annual lighting power requirement}} \times 100$$

To create awareness on energy conservation amongst students and staffs of the college, posters on energy conservation were designed by GCDC and placed on the entrance of the building and corridors.

Table 1. Year-wise percentage of annual power requirement of the Institution met by the renewable energy sources

Year (JULY-JUNE)	Power requirement met by renewable energy sources	Total power requirement	Percentage met through Renewable energy source	Renewable energy generated and used	Energy supplied to the grid
2018 -19	24126 units	53016 units	45.51	Solar Energy	8199 units
2019-20	25944 units	59748 units	43.42	Solar Energy	22452 units
2020-21	23400 units	45874 units	51	Solar Energy	1440 units
2021-22	16960 units	52692 units	32.19	Solar Energy	4060 units

Table 2. Percentage of annual lighting power requirements met through LED bulbs from 2018:

Year	Total Lighting requirements	Percentage Lighting through LED bulbs	Percentage Lighting through other sources	Any additional information
2018-19	12614 watts	13.27	86.96	- -
2019-20	-	-	-	There was no change
2020-21	8394 watt	23.8	76.2	Ten percent increase in LED lighting
2021-22	-	-	-	Survey was not conducted
2022-23	26289 watts	98.4	1.6	Almost 100 percent of lighting through LED bulbs/tubes



Solar power generation in Shillong College Main campus and Mawkasiang campus



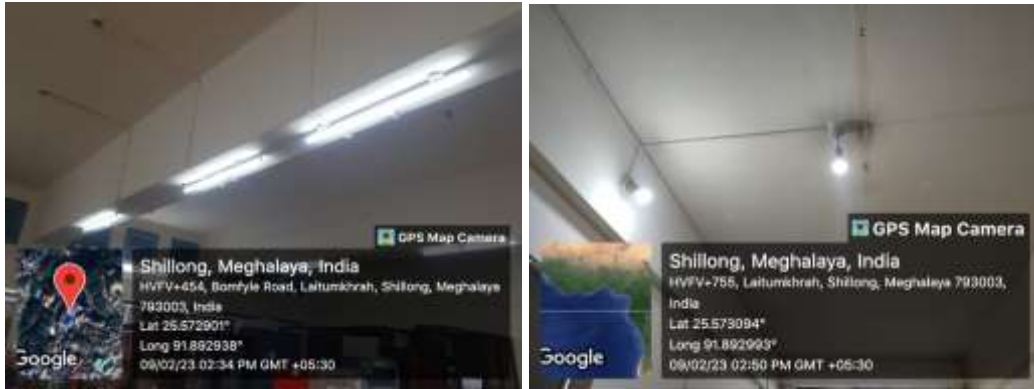
Mini-hydro power generation in Mawkasiang campus



Solar water heaters in the girl's hostel



Solar Street lights at the Girl's Hostel, Shillong College



LED lightings in Shillong College Main campus



Posters on energy conservation were designed by GCDC

WATER CONSERVATION

As an environmental conscious institute, the college has taken various steps in conservation of water resources.

Rain water harvesting: Rainwater harvesting facilities have been set up in the Shillong college main campus, girl’s hostel and Mawkasiang campus. GCDC monitors that these systems are in place. Two underground tanks for collection of rainwater were constructed in the Shillong college main campus. The underground water tank adjacent to Block B with a capacity of 15000 litre and the other adjacent to block C has a capacity to store 25,000 litres of water. In addition to this, the college also has over-ground water tanks for rain water harvesting provided

by the State Council of Science Technology and Environment (SCSTE), Government of Meghalaya. Three of these tanks provided by SCSTE were installed in the college premises and the rest were installed in the girl's hostel. Water from these tanks is supplied to the laboratories for cleaning and other experimental purposes. Other domestic water requirements in the college are also met from this water. The Green Campus Development Committee of the college is cautious that there is no unnecessary or wasteful use of this water. In the near future, the committee will see that the college will make more such structures so that it is self-sufficient in terms of water need and make good use of this resource.





Rainwater harvesting units in the Main Campus and Mawkasiang Campus

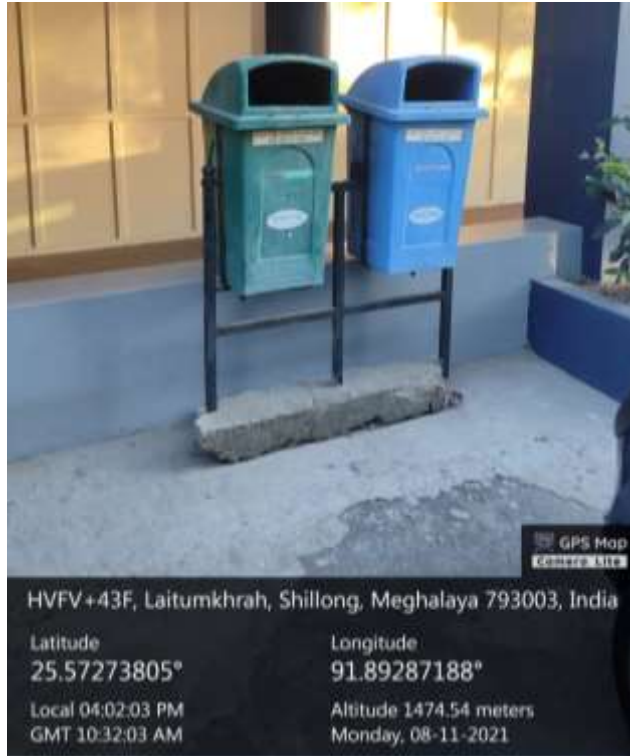


Borewell recharge at Shillong College, Main Campus

WASTE MANAGEMENT

Solid waste management: The college has made provisions for segregation of waste at the source by providing separate bins for biodegradable and non-biodegradable waste. These wastes are then taken by the municipal waste collection unit twice or thrice a week as and when needed. Posters on waste segregation were designed by GCDC and placed at the main entrance. A simple compost pit for managing biodegradable waste from the hostel was constructed.



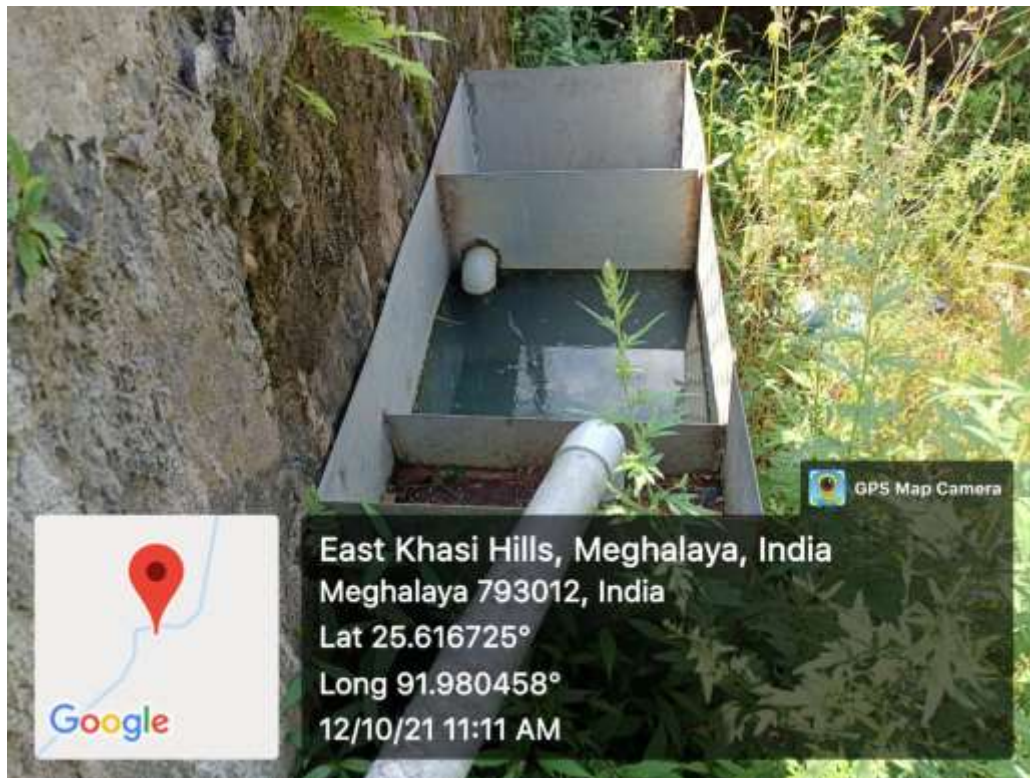




A simple compost pit for managing biodegradable waste from the girl's hostel

Liquid waste management: Point sources of waste water in the college campus have been identified. Some of these have been equipped with waste water treatment units. The Green Campus Development Committee with the help of the management have laid out the ground work to establish more water treatment units at those point sources which do not have one. Each liquid waste management unit is a three stage system. In the first stage large debris are filtered out. In the second the waste water is allowed to stand which

results in sedimentation of waste and a third stage sedimentation unit enables further sedimentation and treatment if required.



Primary waste water treatment unit

E- waste management: Regarding E-waste management, the college in the year 2019 has assigned a staff to look after the e-wastes generated by the college. The assigned staff has to collect all the unused or non-functioning electronic items from the laboratories, college office, classrooms, etc. and store them properly. When there are enough wastes they are then sold off to a dealer who comes to collect them from the college.

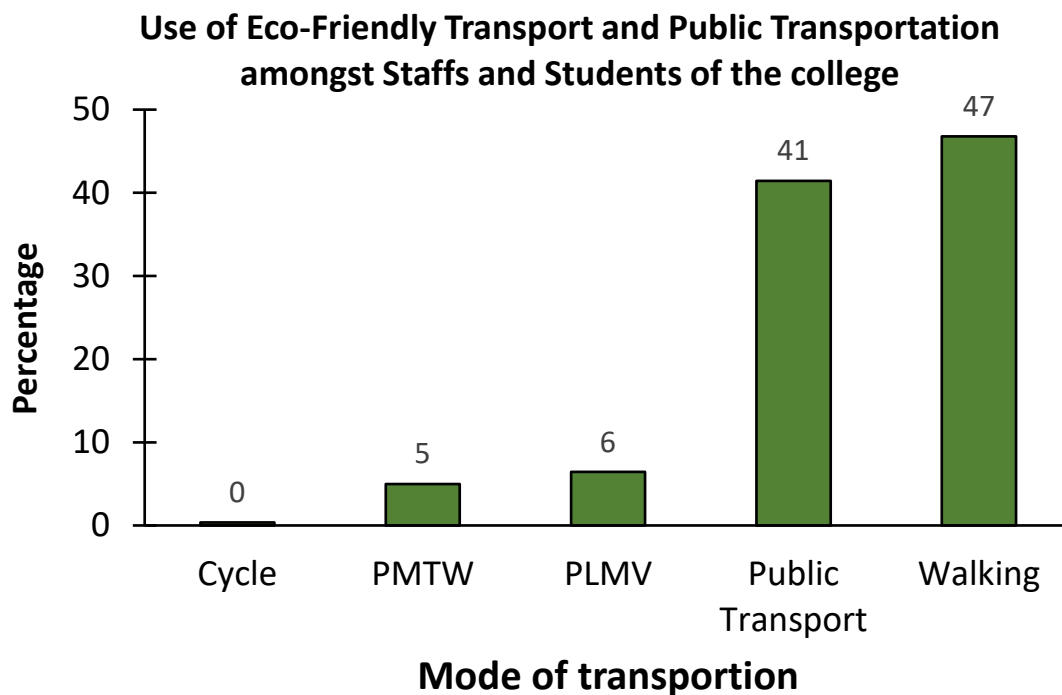
IMPROVING GREENERY AND BIODIVERSITY IN THE CAMPUS.

The college has taken initiatives to develop green zones within the campus. The Green Campus Development Committee assist the management in beautifying and greening the campus by planting flowers, creepers and ornamental shrubs within the college. The committee made

procurement of seedlings of flowers and shrubs and conduct regular plantation and inspection of the plants planted.

ECO-FRIENDLY PRACTICES

A survey has been conducted by GCDC on use of Eco-Friendly Transport and Public Transport amongst Staffs and Students of the college and it was found that about 89 percent of staffs and students comes to college by public transport (41.4%), walking (46.8 %), and cycle (0.4%). Use of bicycle is particularly difficult due to unsuitable terrain and since there is no separate lane in the city for bicycle, therefore, it is not considered safe for staff and students to use bicycles.



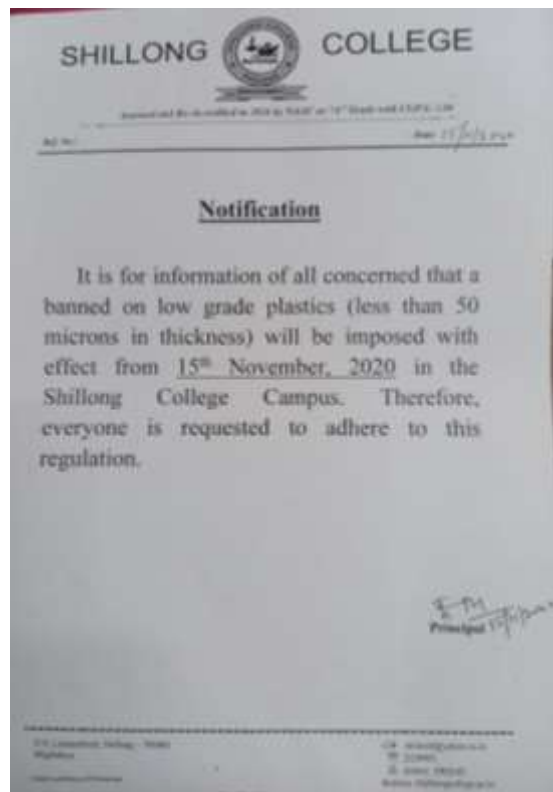
PMTW - Private Light Motor Vehicle; PLMV - Private Motorized Two Wheeler



The college also has restricted entry of automobiles. Entry and Parking of vehicles in the college premises is allowed for staffs only.



A notification on ban of low grade plastic in the college premises was issued by the Principal as an initiative towards a plastic free campus.



Notification on Plastic ban

QUALITY AUDITS ON ENVIRONMENT AND ENERGY

The college has conducted a self-evaluation study to enable it to understand its position with respect to its contribution towards environmental and energy conservation or lack thereof. The main outcome of these Audits has helped the college have a clearer picture of its strengths and identify its problem areas. The results of the audits will further aid in the college's future efforts to be more sustainable and eco-friendly. The Audits were conducted with the assistance of The Meghalaya State Pollution Control Board for the Green Audit and Department of Energy Engineering, North Eastern Hill University for the Energy Audit.

PROGRAMMES ORGANISED BY GCDC

Sl. No	Name of the activity	Organising unit/ agency/ collaborating agency	Year of the activity
1	Swachhata Hi Seva Campaign “Waste Plastic Collection Drive”	Green Campus Development Committee, Shillong College in collaboration with the Department of Environmental Science and the Department of Political Science	2 nd October, 2019
2	Awareness Program On “Energy Management and Accounting”	Green Campus Development Committee, Shillong College	9th March 2022
3.	Awareness Programme on “Waste Segregation” for the Caretaking Staff of Shillong College	Green Campus Development Committee, Shillong College	5th Dec, 2022

Swachhata Hi Seva Campaign “Waste Plastic Collection Drive” organised by Green Campus Development Committee, Shillong College in collaboration with the Department of Environmental Science and the Department of Political Science on 2nd October, 2019



Awareness Program On “Energy Management and Accounting” conducted by Green Campus Development Committee, Shillong College on the 9th March 2022



Awareness Programme held on “Waste Segregation” for the Caretaking Staff of Shillong College held by the Green Campus Development Committee, Shillong College on the 5th Dec, 2022.



FUTURE PLANS

Short term

1. To include students in future activities
2. To conduct more awareness programmes and activities

Long Term

1. To develop a well established terrace garden
2. To be self sufficient in producing organic fertilizer
3. To develop a medicinal herbal garden within the campus
4. Improve recycling practices
5. To cover all domestic electrical lines under solar power