

2018-2019



**DON
BOSCO
COLLEGE**

GREEN AUDIT REPORT



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Don Bosco College, Tura keeps practicing and promoting a self sustainable green campus with a view to preserve and enhance the Institution in the future to come and always maintains beautiful seasonal flowers, shade trees, fruit trees and medicinal plants as well as endangered plants all throughout the year. The Institution adopted simple cost effective steps to reduce energy and water use and minimize the campus waste and established low cost environmentally friendly alternatives available. The College campus itself can be described as a self sustainable one in terms of environmental, ecological and economic point of view. The positive impact of having a green campus is its easy access to green outdoor environment. The main objective of maintaining a green campus in the college is because of the following reasons:-

- Create a more sustainable campus environment for staff, faculty as well as students.
- Improve environmental health within the college as well as on the student community.
- Result in improve air quality, cool local air temperature, filter and retain storm water and contribute to more healthier and more beautiful campus.
- Set a model example for the student community, faculty and the staff members as well as for the visitors to be environmentally responsible citizen.
- Provide essential habitat and food source for wildlife in a landscape increasingly fragmented by urban development.

Don Bosco College, Tura to test the **Green Campus concept** on a small scale has taken the initiative of preparing a Green Audit Report of the college campus for the year 2018-2019 to help identify and address environmental issues and improvement opportunities in the campus. A Self Assessment Green Audit has been carried out and the following observations have been identified after the evaluation process. A draft report has been made under seven different categories.

1. **Water Audit** – Don Bosco College, Tura has its own water resource which is supplied to the entire establishment. Groundwater is the primary water source so the well and pump which are the main equipments used were maintained periodically. The Institution has proper water storage facility and never experiences any water scarcity problem even during the dry periods. Maximum water is utilised in laboratories, washrooms, toilets, gardens and canteen. There is

always clean water available in the college for drinking purposes both for the staff as well as for the student community. The college has planned to set up a simple cost effective and traditional water harvesting facility in the campus especially to manage the storm water during rainy seasons.

2. **Waste Disposal Audit** - The Institution maintains proper rules and regulations for proper waste disposal in the campus. All the solid waste is collected in one place and is transferred by the local Municipal Department for recycling. The liquid waste is collected in one septic tank constructed by the Institution especially for this purpose. At the time of filing of this report the college does not possess any recycling facility in the campus but excess paper waste is sold off in bulk to the local recycling centre.
3. **Energy Audit** - The Institution adopt proper measures to save energy. The students are instructed to switch off the lights and fans whenever it is not used. Energy conserving lights are used in the classrooms and departments. The Institution has a strategically planned college building and the classrooms have enough natural light during the daytime reducing the use of electricity.
4. **Environmental Quality Audit** - To make the college more eco-friendly and to sensitise the students about environmental issues the Institution organises tree plantation on various environmental related programmes. Proper signboards giving awareness about plastic free and clean and green campus are put up in the college campus to instil a sense of responsibility and environmental consciousness among the student community, faculty and all the staff members of the Institution. Eco-friendly and indigenous materials like bamboo are used as a dustbin in the outdoor campus area. The college campus always remain lush green at any given point of time. The Institution try its best to curb any noise pollution and as such have never receive any such complaint from the immediate neighbourhood.
5. **Health Audit** - The Institution possess a separate common room for Boys and Girls students in the building which the students can access at any point of time during the college timing. Some departments keep a First Aid Box to deal with small accidents. Proper instruction is given to the students before the practical classes related to handling of chemicals. There is also a washbasin in each practical room for the students as well as for the staff to use when in need.
6. **Renewable Energy Audit** - The Institution has adopted a renewable energy source in the campus in the form of solar panels. The college has installed two

solar panels of 75 watt each with a voltage (vmp) of 18.2 v and peak power (P_{max}) of 80 w. It has in a way reduced the use of non renewable resources in the college.

7. **Carbon Accounting Audit** - The Institution has a landscape of surplus greenery and trees in the campus which play an important role in the cycle of carbon in the campus through storing carbon, sequestering carbon and reducing the building carbon emission. Having maximum number of trees in the campus has also resulted in the negligible use of air conditioners in the college even during the hot summer months.

Recommendations:

- ✓ The Institution need to determine and document the short term and long term environmental and economic benefits of having a Green Campus and share this information with all the stakeholders of the Institution including the student community.
- ✓ The institution should make a basic strategic planning and follow up process to make a long term commitment of maintaining a Green Campus and involve the student community as much as possible by making them aware of the basic environmental ethics.
- ✓ The Institution can develop a partnership with personnel from Government and Non Government Organisation, local environmental agencies and business community which can serve as advisor and assist the Institution in accessing information and performing environmental audits.



Fr. Bivan R Mukhim

Principal

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Photo 1: Signboard with a Green Mission Initiative in the front yard of the campus



Photo 2: Lush green landscape showing the back yard of the college campus



Photo 3: Endangered plants like Citrus indica (Me. mang narang) in the campus



Photo 4: Economic important plants like banana tree in the campus



Photo 5: Ecofriendly and indigenous dustbins in the front yard of the college



Photo 6: Pristine looking campus after the summer rains



Photo 7: Awareness and promotion of plastic free campus



Photo 8: Exotic plant like bottleneck plant in the backyard of the college

LIST OF TREES IN DON BOSCO COLLEGE CAMPUS

Trees form an important part of any ecosystem. Trees provide a habitat for birds, squirrels, butterflies and a host of other organisms. Truly, the composition of most organisms depend on the assemblage of plants in any given place. Apart from regulating the temperature of the surrounding , they also provide a much needed shade for the people in the campus. Green Club , Don Bocso College , Tura, has been entrusted with proper documentation of all the trees found in the college campus. The college campus surprisingly play a host to a diverse group of plants. Most of the plants in the campus are important not only from aesthetic point of view but from ecological and economic view as well. Shade giving plant like *Mesua ferrea* and *Terminalia arjuna* are also important medicinal plants too. An endangered plant like *Citrus indica* is also grown in the campus by the Green Club. The following are a list of tree plants found in the campus.

1. *Polyalthia longifolia* (Indian Mast Tree)
2. *Mesua ferrea* (Indian Rose Chestnut Tree)
3. *Terminalia arjuna* (Arjun Tree)
4. *Jacaranda mimosifolia* (Jacaranda)
5. *Artocarpus heterophyllus* (Jackfruit)
6. *Hyophorbe lagenicaulis* (Bottle Palm Tree)
7. *Emblica officinalis* (Wild Gooseberry)
8. *Araucaria heterophyllus* (Christmas Tree)
9. *Musa paradisiaca* (Banana Tree)
10. *Citrus indica* (Wild Indian Orange)
11. *Muntingia calabura* (Singapore Cherry)
12. *Cassia fistula* (Indian Laburnum)
13. *Bambusa vulgaris* (Bamboo)
14. *Azadirachta indica* (Neem)
15. *Pongamia pinnata* (Indian Beech Tree)
16. *Cupressus semipervirens* (Cypress)
17. *Alstonia scholaris* (Devil's Tree)



Lily Bell Ch Marak
Coordinator Green Club

Table showing the number of trees in the Don Bosco College Campus

Serial No.	Scientific Name	Common Name	Total Number
1	<i>Polyalthia longifolia</i>	Indian Mast Tree	20
2	<i>Mesua ferrea</i>	Indian Rose Chestnut Tree	10
3	<i>Terminalia arjuna</i>	Arjun Tree	2
4	<i>Jacaranda mimosaeifolia</i>	Jacaranda	1
5	<i>Artocarpus heterophyllus</i>	Jackfruit	4
6	<i>Hyophorbe lagenicaulis</i>	Bottle Palm Tree	7
7	<i>Emblica officinalis</i>	Wild Gooseberry	1
8	<i>Araucaria heterophyllus</i>	Christmas Tree	2
9	<i>Musa paradisiaca</i>	Banana Tree	10
10	<i>Citrus indica</i>	Wild Indian Orange	50
11	<i>Muntingia calabura</i>	Singapore Cherry	1
12	<i>Cassia fistula</i>	Indian Laburnum	2
13	<i>Bambusa vulgaris</i>	Bamboo	2
14	<i>Azadirachta indica</i>	Neem	1
15	<i>Pongamia pinnata</i>	Indian Beech Tree	2
16	<i>Cupressus semipervirens</i>	Cypress	20
17	<i>Alstonia scholaris</i>	Devil's Tree	1

*** Around 136 number of plants are documented from the college campus of Don Bosco College Tura , the number appears to be quite high considering the fact that the campus area is quite small in comparison.

ENVIRONMENTAL PRACTICES OF DON BOSCO COLLEGE

I) WATER MANAGEMENT

Name of the Practice	Botany	Zoology	Chemistry	Physics	Geography	Biotech Hub	Toilets	Canteen
Wise use of water	√	√	√	√	√	√	√	√
Water leakage repair	√	√	√	√	√	√	√	√
Use of water purification	√	√	x	x	x	√	√	√
Water Pollution incidence	x	x	x	x	x	x	x	x
Water storage	√	√	√	√	√	√	√	√
Water use per day in litres	x	x	x	x	x	x	x	x
Water tank	√	√	√	√	√	√	√	√
Rain water harvest	x	x	x	x	x	x	x	x
Water management practices	√	√	√	√	√	√	√	√

II) WASTE MANAGEMENT

Name of the Practice	Arts Department	Science Department	Computer Science	Biotech Hub	Office	Library	Canteen
Food/ organic waste per day	Low	Low	x	Low	Low	Low	High
Paper waste per day	Low	Low	Low	Low	High	Low	Low
Plastic/thermocool waste per day	Low	Low	High	Low	Low	Low	High
Other (e-waste)	Low	Low	High	Low	Low	Low	x
Management of organic waste	x	x	x	x	x	x	x
Management of other waste	x	x	x	x	x	x	x
Waste dumping pit	√	√	√	√	√	√	√
Waste management practices	√	√	√	√	√	√	√

III) ENERGY MANAGEMENT

Name of the Practice	Classroom	Office	Computer labs	Library	Staff room	Laboratory	Biotech Hub	Principal/Vice Principal's office
No. of tubes and bulbs	72	19	11	20	22	33	3	7
No. of A/C	x	x	2	x	x	x	1	2
No. of LCD projector	10	x	x	x	x	x	1	x
No. of photocopier	x	4	x	1	x	x	x	1
Computers and Printers	x	12	55	12	15	x	2	2
LEDs	x	x	x	x	x	x	x	x
Non conventional energy (solar/wind)	x	x	x	x	x	1	x	x
Energy management practices	√	√	√	√	√	√	√	√

IV) LANDSCAPE/ENVIRONMENT MANAGEMENT

Name of the Practice	Outdoor	Remarks
Overall green cover	70%	
Garden	√	
Indigenous trees/plants	√	
Exotic plants	√	
Overall biodiversity	√	
Landscape management plan	√	
Natural water bodies	x	Proposal Pending

V) BUILDING ENVIRONMENT

Name of the Practice	Whole Building	Remarks
Building type	RCC type	
Area in square feet	35,450	
Eco-friendliness	Yes	
Aesthetic appeal	Yes	
Fire prevention provisions	Yes	
Serenity of classrooms	Yes	
Ladies restroom	Yes	
Recreation room	No	
Separate toilets for men/women	Yes	
Provisions for differently abled	Yes	