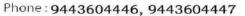
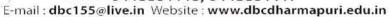


DON BOSCO COLLEGE

Athiyaman Bypass Road, Sogathur Post, Dharmapuri 636 809







7.1.3 Quality audits on environment and energy regularly undertaken by the institution. The institutional environment and energy initiatives are confirmed through the following.

S.NO	PARTICULARS	
1.	Green audit / Environment audit	
2.	Energy audit	
3.	Clean and green campus initiatives	
4.	Beyond the campus environment promotion activities.	



DON BOSCO COLLEGE

thiyaman Bypass Road, Sogathur Post, Dharmapuri 636 809





GREEN AUDIT REPORT



GREEN FOUNDATION

Bungla Street, Varichikudi Near by Hyundai Showroom

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EXECUTIVE SUMMARY

Green Audit is defined as an official examination of the effects a college has on the environment. It helps to improve the existing practices with the aim of reducing the adverse effects of these on the environment concerned. Several institutions have applied various viewpoints to preserve the environment within the campus such as promotion of energy savings, re-cycling of waste, water use reduction, water harvesting etc., Green audit visualizes the documentation of all such activities taking stock of the infrastructure of the college, their academic and managerial policies and future plans. A green auditor will study an organization's environmental effects in a systematic and documented manner and will produce environmental audit. A clean and healthy environment aids effective learning and provides a comfortable learning environment.

Green audit can be a useful tool for a college of determines how and where they are using the most energy or water or natural resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of green impact on campus directly. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. Thus it is imperative that the college evaluates its own contributions towards a sustainable future. As environmental sustainability is becoming an increasingly important issue for the entire region and the nation, the role of higher educational institutions in relation to environmental sustainability is more relevant.

DON BOSCO COLLEG

The audit process in Don Bosco College, Dharmapuri, involved initial interviews with the staff to seek clarification of policies, activities, records and with the co-operation of staff and other employers in the implementation of data for the green audit process, through the questionnaire based survey, review of records, observation of practices and observable outcomes, in the green auditing process in the college.

The baseline data prepared for this college will be a useful tool for campus greening, resource management planning of future projects, and documents for implementation of sustainable development of the college. Existing data will allow the college to compare its programs and operations with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. The green audit reports assist in the process of attaining an eco-friendly approach to the sustainable development of the college. It is Hoped that the results presented in the green auditing report will serve as a guide for the educating the college community on the existing environment related practices and resource usage at the college as well as spawn new activities and innovative practices. We expect that the management will be committed to implement the green audit recommendations.

We are happy to submit this GREEN AUDIT REPORT to the authorities, the Principal of Don Bosco College, Dharmapuri, Tamilnadu.

PLACE: Dharmapuri

DATE: 29.11.2022

INTRODUCTION

Don Bosco College, Dharmapuri, a constituent of an Educational Network of the Salesians of Don Bosco, Chennai Province, Tamil Nadu, was founded in 2007 on Adhiyaman Bypass Road, Sogathur, by Rev. Fr. Johnson Antonysamy, SDB, Rector and Rev. Dr. C. M. Varghese, SDB, the first Principal. It is the first and only minority institution, established in Dharmapuri to train and equip the young minds for a challenging and fulfilling career under Periyar University, Salem. Built in a serene and calm environment, the College provides a holistic ambient for the growth of the rural students.

1.3 Total Campus Area spared & College Building

Campus area **15.11 Acers**Built up area **94,750 Sq. Mts.**

Sports Ground, Auditorium, Canteen, Rest rooms Library, Seminar halls, Computer labs and class Room.

Landscaping with trees and plants THE TREES IN THE CAMPUS OF DON BOSCO COLLEGE, DHARMAPURI, WITH THEIR FAMILY, BOTANICAL NAME.

S.NO	NAME OF THE TREES	BOTANICAL NAME	FAMILY NAME	NO OF TREES
1	ADHATODA TREE	Justica adhatoda	Acanthaceae	11
2	NEEM TREE	Azadirachta indica	Meliaceae	239
3	COCONUT TREE	Cocos nucifera	Arecaceae	8
4	ILUPPAI TREE	Madhuca longifolia	Sapotaceae	46
5	POOVARASAN TREE	Thespesia populnea	Malvaceae	30
6	GUAVA TREE	Psidium guajava	Myrtaceae	7
7	ALMOND TREE	Prunus dulcis	Rosaceae	57
8	MANJAL KODRAI	Cassia fistula	Caesalpinioideae	57
9	PUNGAN TREE	Millettia pinnata	Fabaceae	151
10	MALABAR NEEM TREE	Melia dubia	Meliaceae	4
11	PINE TREE	Casurina equisetifoliia	Pinaceae	7
12	SORGAM TREE	Simarouba glauca	Simoroubaceae	44
13	BAMBOO TREE	Bambusa vulgaris	Poaceae	9
14	GHOOSE BERRY TREE	Phyllanthus acidus	Phyllanthaceae	2
15	BLACKBERRY TREE	Rubus allegheniensis	Rosaceae	54
16	TEAK WOOD TREE	Tectona grandis	Lamiaceae	126
17	KADAKKAI TREE	Terminalia chebula	Combretaceae	4
18	MAHOGANY TREE	Swietenia manophylla	Meliaceae	42
19	VAGAI TREE	Albicia lebbeck	Fabaceae	24
20	RUBBER TREE	Hevea brassilensis	Euphorbiaceae	7
21	AVULIL TREE	Ailanthus altissima	Phyllanthaceae	2
22	NUNAN TREE	Morinda tinctoria	Rubiaceae	15
23	CLUSTER FIG TREE	Ficus racemosa	Moraceae	3
24	JASMINE TREE	Millingtonia hortensis	Oleaceae	5
25	SACRED FIG TREE	Ficus religiosa	Moraceae	1
26	BELLERIC MYROBALAN TREE	Terminalia bellerica	Combretaceae	5
27	COTTON TREE	Ceiba pentandra	Malvaceae	3
28	MATCH BOX TREE	Wrightia tinctoria	Rutaceac	2
29	TAMARIND TREE	Tamarindus indica	Fabaceae	PRIM
30	INDIAN ROSE WOOD TREE	Dalbergia latifolia	Fabaceae	*/24

	TOTAL NO OF		1096	
51	SATAWAR	Asparagus racemosus	Asparagaceae	1
50	CYLINDRICAL SNAKE PLANT	Dracaena abglolensis	Asparagaceae	1
49	SILVER TORCH	Cleistocactus strausii	Cacataceae	2
48	CHRIST PLANT	Euphorbia milli	Euphorbiaceae	17
47	SNEEZE WOOD TREE	Ptaeroxylon obliquum	Rutaceac	1
46	SIERRA STONE CROP	Sedum obtusatum	Crasulaceae	2
45	GARDEN CROTON	Codiaeum varigatum	Codiaceae	2
44	GOOD LUCK PLANT	Ardelyne fruticosa	Asparagaceae	2
43	DESERT ROSE	Adenium obesum	Apocyanaceae	6
42	YELLOW MILK BUSH	Euphorbia mauritanica	Euphorbiaceae	1
41	CHINESE HIBISCUS	Hibiscus rosasinensis	Malvaceae	2
40	SNAKE PLANT	Dracaena trifasciata	Asparagaceae	4
39	UMBRELLA TREE	Schefflera actimophylla	Araliaceae	2
38	ARECA PALM	Chamaedorea elegans	Arecaceae	23
37	INDIAN SHOT	Canna indica	Cannaceae	4
36	JAVA PALM	Saribus rotundifolicus	Arecaceae	1
35	ROSARY PEA TREE	Abrusprecatorius	Fabaceae	16
34	BRAZILIAN ORACHID TREE	Bauhinia forticata	Orchidaceae	4
33	ROYAL PALM TREE	Roystonea cleracea	Arecaceae	6
32	SILVER TRUPET TREE	Tabebuia aurea	Bignoniaceae	4
31	BENJAMIN FIG TREE	Ficus benjamina	Moraceae	4

DON BOSCO COLLES

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The green audit practically involves energy conservation, use of renewable resources, rain water harvesting, efforts of carbon sequestration methods, planting trees waste management including hazardous and e-waste. This requires data collection and efforts for clarification of environmental policies. Green auditing includes systematic identification, recording and analysis of components related to sustainable development of an educational institution to preserve for future generations. The process has three important stages such as pre audit stage, audit stage and post audit stage. In, a training programme conducted for students and staff to help them collect data during the audit processes. Pre-audit meeting was held in the college also provided an opportunity to reinforce the scope and objectives of the audit, and discussions that were held on the practical's associated with the audit. This meeting was conducted successfully and necessary documents were collected directly from the college before the initiation of the audit processes. Actual planning of audit processes was discussed in the pre- audit meeting. With the help of staff and the college management the auditing was carried out.

Scope and Goals of Green Auditing

It is necessary to conduct green audit in college campus because students become aware of the green audit, its advantages to save the planet and they become good citizen of our country. Thus Green audit becomes necessary at the college level. A very simple indigenized system has been devised to monitor the environmental performance of this Don Bosco College, Dharmapuri. It comes with a series of questions to be answered on a regular basis.

This innovative scheme is user friendly and totally voluntary. The aim of this is to help the institution to set environmental examples for the community, and educate the young learners.

Benefits of the Green Auditing

The following are the benefits of green auditing:

- Benchmarking for environmental protection initiatives
- To provide basis for improved sustainability
- To create a green campus
- To enable waste management through reduction of waste generation, solid-waste and water recycling

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To create plastic free campus

- Point out the prevailing and forthcoming complications.
- Authenticate conformity with the implemented laws.
- Enhance the alertness for environmental guidelines and duties
- Impart environmental education through systematic environmental management approach and improving environmental standards
- Financial savings through a reduction in resource use
- Development of ownership, personal and social responsibility for the College and its environment.
- Enhancement of college profile developing an environmental ethic and value systems in youngsters.
- Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the college.

Target Areas of Green Auditing

Green audit forms part of a resource management process. Although they are individual events, the real value of green audits is the fact they are carried out, at defined intervals and their results can illustrate improvement or change over time. Eco-campus concept mainly focuses on the efficient use of energy and water minimize waste generation or pollution and economic efficiency. All these indicators are assessed in process of "Green Auditing of educational institute". Eco-campus focuses on the reduction of contribution to emissions, procures a cost effective and secure supply of energy, encourages and enhances energy use conservation, promotes personal action, reduce the institute's energy and water consumption, reduce wastes to landfill, and integrate environmental considerations into all contracts and services considered to have significant environmental impacts. Target areas included in this green auditing are water, energy, waste, green campus and carbon footprint.



Auditing for Water Management

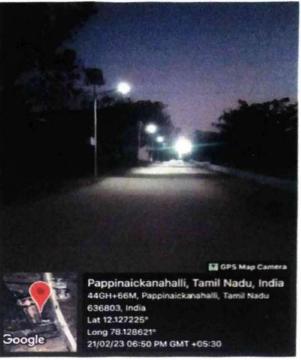
Water auditing is a method of quantifying water flows and quality in simple or complex systems, with a view to reducing water usage and often saving money on otherwise unnecessary water use. Water is life; virtually everything we do or use each day involves water. Yet, we do not give it the importance that is due to it. India will soon be a water-stressed country and we all need for work towards our water security. There is an increasing awareness around the globe of the centrality of water to our lives. This awareness crosses political and around the globe of the centrality of water to our lives. This awareness crosses political and social boundaries. In many places people have difficult access to drinking water. Often it is polluted. We need use water wisely to ensure that drinkable water is available for all, now and in the future.

Water auditing is a mechanism for conserving water, which will grow in significance in the future as demand for water increases. It is conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and recuse. The concerned auditor investigates the relevant method that can be adopted and implemented to balance the demand and supply of water. It is therefore essential that any environmentally responsible institution examine its water use practices.

Auditing for Energy Management

An energy audit is an inspection, survey and analysis of energy flows for energy conservation in a building, institution, processor system to reduce the amount of energy input into the system without negatively affecting the output. It shows where the power consumption is more in the given system without negatively affecting the output. It shows where the power consumption is more in the given system. It can also be called as controlling of the power usage to avoid-losses and maximize efficiency. Energy managements (audit) approach is understanding energy costs, bench marking, energy performance, matching energy use to requirement, maximizing system efficiencies, optimizing the input energy; requirements, and fuel and energy substitution. Energy cannot be seen, but we know it is there because we can sense its effects in the forms of heat, light and power.





Auditing for Waste Management

A waste audit is a methodically thought out process which can be used to determine the amount and types of waste that are generated by an organization. Information from these audits can help the organization to determine how we can reduce the amount of waste that an institution generates. In most work places, cardboard, paper, plastics, metals and food constitute the majority of what goes in the garbage. Pollution from waste is aesthetically unpleasant and results in large amount of litter in communities which can cause health problems. Plastic bags and discarded ropes and strings can be very dangerous to birds and other animals. Solid waste can be divided into two categories: general waste and hazardous waste. General wastes include what is usually thrown away in homes and schools such as garbage, paper, tins and glass bottles. Hazardous waste is waste that is likely to be a threat to healthy or the environment like cleaning chemicals and petrol, unscientific landfills may contain harmful contaminants that leach into soil and water supplies, and produce greenhouse gases contributing to global climate change. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems.

Auditing for Green Campus Management

Green Campus is an environment which improves energy efficiency, conserving resources and enhancing environmental quality by educating for sustainability and creating healthy, living and learning environments. Green Campus rewards long term commitment to continuous environmental improvement from the campus community. Green college makes a point to account for sustainable living when designing and operating their buildings.

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Many of their facilities incorporate natural lighting, improve air quality, and reduce energy and water use. Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. Planting trees without consideration for their species location, and maintenance will not result in all of their wished-for benefits. It is essential to plan where the trees are planted and to plan their on-going maintenance in order to maximize future benefits and to ensure long-term on trees survival and growth. Trees in a college yard improve air quality and can reduce temperatures with their cool shade.

They area small environmental in investment that will pay dividends for decades to come. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere, and release it as oxygen. So while you are busy studying and working on earning those good grades, all the trees on campus are also working hard to make the air cleaner for us. Trees on our campus impact our mental health as well; studies have shown that trees greatly reduce stress, which a huge deal is considering that many students are under some amount of stress.

Auditing for Carbon Footprint

Microcosms of the world at large, college campuses are great test beds for environmental change, and many students are working hard to get their administrations to take positive action. The initiatives that are emerging are models for the larger society, and the students pushing for them will be taking these lessons with them, too as they enter the work force after graduation. Foremost on the minds of green-leaning students today is global warning, and many are joining hands to persuade their colleges to update policies and streamline operations so that their campuses can become part of the solution. Commutation of stakeholders has an impact on the environment through the emission of greenhouse gases into the atmosphere consequent to burning of fossil fuels, such as petrol diesel. The most common greenhouse gases are carbon is dioxide, water vapour, methane, nitrous oxide and ozone. Of all the greenhouse gases, carbon dioxide is the most prominent greenhouse gas, comprising 402 ppm of the Earth's atmosphere.

The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions. The question is what should be done to reduce carbon emissions. Often the challenge lies in choosing just the right approach that will o contribute most to the objective. Naturally, the results of these interventions also have to be monitored and assessed;

Many colleges want to reduce their carbon dioxide (CO₂) emission. But that's not so easy, given that a range of factors determine carbon emissions, including mobility, waste, and energy consumption, So, gaining insight into CO₂ emissions is extremely important. An important aspect of doing an audit is to be able to measure your impact so that we can determine better ways to

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manage the impact. In addition to the water, waste, energy and biodiversity audits we can also determine what our carbon footprint is, based on the amount of carbon emissions created. One aspect is to consider the distance and method travelled between home and college every day. It undertakes the measure of bulk of carbon dioxide exhaled by the organization through which the carbon accounting is done. Towards sustainable development. It is necessary to know how much the organization is contributing.

2.5 Methodology of Green Auditing

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of this Don Bosco College, a questionnaire, physical inspection of the campus, observation and review of the documents, interviewing responsible persons and data analysis, measurement and recommendations.

Data Collection – In data collection phase, exhaustive data collection as observation, survey was performed using different tools such communicating with responsible persons and measurements. Data collection was done from the primary sources.

Following steps were taken for data collection:

- The team visited each department, centres, Library, canteen, gardens, 1 campus etc.
- Data on the general information was collected by observation and interview.
- The power consumption of appliances was recorded by taking an average value in some cases.
- Plants were identified using standard taxonomic books.
- Waste generated was measured directly at the source of production.

Data analysis – Detailed analysis of data collected include: computation of energy consumption, analysis of latest electricity bill of the campus, understanding the tariff plan provided by the TN Power Solution the Energy supplying Company Tamilnadu. Data related water usage were also analysed using appropriate methodology.

Recommendation – On the basis of result of data analysis and observations, some steps for reducing power and water consumption were recommended proper treatment methods for waste were also suggested. The above target areas particular to the college was evaluated through questionnaire.

Auditing for Water Management:

The college has taken maximum steps to harvest rainwater inside the college campus. Rain water from the terrace and other areas is collected and preserved in a separate sump built specifically for harvesting the rain water with 1,00,000 litres capacity and this WATER IS REUSED FOR OTHER PURPOSE OF WATERING THE PLANTS AND IN THE WASHROOM.

Rain water Harvesting:

The total roof area is 94750 SqMtrs

The quantity of rain water collected through roof only and the same is harvested. i.e., 853.10 mm* 64750 = 5,52,38,225 Litres

[Here 853.10mm is average rainfall in Dharmapuri in 2022 https://dharmapuri.nic.in/agriculture-department/ and 64750 SqMtrs is Roof Area]





Auditing for Energy Management:

Don Bosco College installed solar energy system to facilitate for alternate sources of energy and it really much consumed by the college during the time less power supply. Solar energy is produced by the sun's light - photovoltaic energy. It offers umpteen advantages that really makes most promising energies such as a.) Renewable, b.)Inexhaustible, c.)Non-polluting, d.)Tries to avoid global warming, e.) Lessens the use of fossil fuels, f.) Reduces energy imports, and g.)Provides for sustainable development. The Ministry of New ad Renewable Energy (MNRE), Government of India has been developing this aim to deploy New and Renewable energy for supplementing the energy requirement of the country.

Solar panels 60 in numbers with the output capacity of 325 watts and 20 KVA. Inspire of this, we use solar lights for the pavements and entrance and so we conserve electricity.

A sensor is a device that receives a stimulus, measured, or any input signal such as from heat, pressure, light, motion and many more, and respond with an electrical signal and this electrical signal then will decide what will be the result of an output, like LED lights helps to brighten the street road and other places in the college. We are working with the third-generation of LEDs. This latest generation lasts longer, is more durable, performs better and is more energy-efficient than any other source of lighting. In our college we have 22 nos. of street lights which are working on solar energy.

Auditing for Waste Management:

The lab attender is maintaining a printed document for issued apparatus. In the year end, after completion of the university practical exam the students should return the apparatus to the lab incharge. If any apparatus is broken, the lab incharge should note that apparatus. The lab attenders should maintaining the lab, student breakage list, chemical requirements list, daily work done, stock list, gas booking, replacing of apparatus and chemicals, waste solid chemicals and containers.

The students' lab attendance, work done for practical regularly registered. The practical in-charge should note the attendance and follow the students' observation note book regularly. The model practical examination was conducted at the even semester. Based on these follow up, give the internal marks to the students are awarded.



OHARMA PLOT

Auditing For Green Campus Management

Some of the following issues are to be considered...

- 1. The garden in the college
- 2. Do students spend time in the garden?
- 3. List the plants in the garden, with approx., numbers of each species.
- 4. What is the involvement of students in the green cover maintenance?
- 5. What is the total area of the campus under tree cover?

Follow Up Action and Plans

Green Audits are exercises which generate considerable quantities of valuable management information, The time and effort and cost Involved in this exercise is often considerable and in order to be able to justify this expenditure, it is important to ensure that the findings and recommendations of the audit are considered at the correct level within the organization and that action plans and implementation programs result from the findings.

Audit follow up is part of the wider process of continuous improvement. Without follow-up, the audit become an isolated event which soon becomes forgotten in the pressures of organizational priorities and the passing of time.

Environmental Education

The following environmental education program may be implemented in the college before the next green auditing:-

- Training programs in solid waste management, liquid water management, setting up of medicinal plant nursery, water management, vegetable cultivation, tree planting, energy management, landscape management, pollution monitoring methods and rain water harvesting methods.
- Increase the number of display boards on environmental awareness such as save water, save electricity, no wastage of food/water, no smoking, switch off light and fan after use, plastic free campus etc.
- Activate the environmental clubs
- Increase the rainwater harvesting system, rainwater pits, vegetable garden, roof garden, etc.Conduct exhibition of recyclable waste products
- Implement chemical treatment system for waste from the laboratories.

Awareness on carbon consumption

- Students and staff members may be made aware of pollution caused by use of vehicles.
- The carbon consumption awareness programs on carbon emission at individual as well as social level with help to avoid air and noise pollution in the campus due to vehicles.

Common Recommendations

- Adopt an environmental policy for the college
- * Establish a purchase policy towards environmental friendly materials
- . Introduce UGC Environmental Science course to all students
- Conduct more seminars and group discussions on environmental education
- Students and staff can be permitted to solve local environmental problems
- * Renovation of cooking system in the canteen to save gas
- Establish water, waste and energy management systems

Follow Up and Action Plans

Green audits form a part of an on-going process. Innovative green initiative have to be designed and implemented every year to make the college environmentally sustainable. Follow up programs of green auditing recommendations should be done meticulously before the next audit.

Next Audit

In order to promote continuous improvement it is recommended to conduct the next green auditing during the year 2024.

Transparency of Green Audit Report

Green audit report is one of the useful means of demonstrating an organization's commitment to openness and transparency, and then it should feel confident enough to make its green audit reports freely available to those who request them. As a basic rule, green audit reports should be made available to all.

Acknowledgements:-

I on behalf of Green Foundation I thank Principal Rev. Dr. J. Angelo, SDB, staff of the Don Bosco College, Dharmapuri, especially Photographer and DTP operators, for entrusting processes of Green auditing. We thank all the participants of the auditing team, faculty and non-teaching staff who provided the information along with us for the survey.

Thank you

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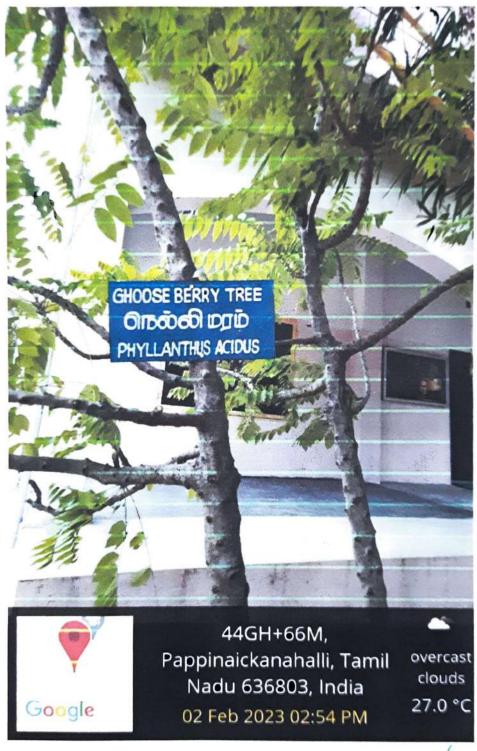
CLEAN AND GREEN CAMPUS



BEYOND THE CAMPUS ENVIRONMENT



DON BOSCO COL







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