



**SAI SHIVA EDUCATIONAL TRUST'S
ARUN MUCHHALA INTERNATIONAL COLLEGE OF
HOTEL MANAGEMENT
Green Audit Report**



Year: 2021-2023

Preface....

The term "Green" means eco-friendly or not damaging the environment. "Green Auditing", an umbrella term, is known by another name "Environmental Auditing". In auditing literature both the terms are being used interchangeably. To implement the green audit other important aspects such as objective of green audit, drivers of green audit, future scope, benefits, and advantages are necessary to understand.

Concept of green audit is not limited to the decorating the college campus but also corporate responsibility, with quality education keep college environment eco-friendly with its facilities. Attempt has been made on that direction by landscaping and plantation, solid waste management, recycling of waste water, conservation of energy, water conservation, rainwater harvesting and minimum of usage of paper.

With keeping this view our campus is clean and fresh, we try to inculcate value of surrounding environment amongst the students through Environmental awareness activities like nature club, NSS, Quiz competition on environment, Gardening development and nursery management course, and activity like Competition on Preparation of "Best from Waste", preparation of trenches and plantation of tree sapling, greenery of the campus is maintaining by the College student and staff.

Because of the greenery and eco-friendly sustainable environment, college campus becomes more charming, refreshing, and healthier. This increases efficiency of every element of the college.

Acknowledgement

We take this opportunity to express our gratitude towards the president of the Institute, Hon. Founder Chairperson, Mr.Aarav Muchhala and all Honorable Members of the local management committee of the college for their valuable guidance, continuous encouragement, generous gift of time with constructive criticism & suggestion during the composition of work of entire "Green Audit Report- 2021-23".

We also express our deep sense of gratitude to our Hon. Principal, Mr. Bipin Jadhav and Coordinator Mrs. Runa Patil who inspired and encouraged us throughout the work. We great fully acknowledge the help provided by him on several occasions.

It is right time to express our deep sense of gratitude to the college and entire team for their continuous help, inspiring resoluteness and sensible suggestion without any reservation whenever we approached throughout investigation.

Coordinator,
Green Audit Report



Principal Message....

I express my hearty wishes for success of this publication of 'Green Audit 2021-2023'. Efforts made by our institution and management for the protection of environment and biodiversity conservation is unique, which may become pilot project gives message about to avoid the for-coming natural disaster like global warming, land sliding etc. We try to maintain environment eco-friendly through activities like plantation, solid waste Management (Composting), sewage treatment plant, energy conservation, E-waste management, and paperless technology to minimize the use of paper basically prepare from the plants.

The aim of our institution to develop youth as fertile probe who understand for their social responsibilities.

I express my hearty wishes for success of this movement of Green Audit Report for the new beginning of the conservation from the doorstep of the people.

Our green audit reflects assessment and achievement of vision and mission of the college.

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GREEN AUDIT REPORT COMMITTEE
Year - 2021-2023

Sr.No.	Name	Designation	Committee Role
1	Mr. Bipin Jadhav	Principal	Coordinator
2	Dr. Pramod Salaskar	Dharitree Enviro Research Centre, Auditor	External Auditor
3	Mrs. Runa Patil	Assistant Professor	Internal Auditor
4	Mrs. Deepa Uplap	Assistant Professor	Internal Auditor
5	Mr. Arun Kumar Pillai	Assistant Professor	Internal Auditor
6	Mrs. Prajakta Dhuri	Assistant Professor	Internal Auditor

Bipin
Salaskar
Runa Patil
Deepa
Arun
Prajakta Dhuri
20



CERTIFICATE OF GREEN AUDIT

Sai Shiva Educational Trust's
ARUN MUCHHALA INTERNATIONAL COLLEGE OF HOTEL MANAGEMENT
(Affiliated to University of Mumbai)

Located at Muchhala college Sai Baba Vihar Complex,
Thane-ghodbundar Road, Thane (W) - 400 615.

Has successfully undergone for Green Audit of their college and has submitted necessary data and credentials for scrutiny. The activities and measures carried out by the college have been verified based on the report submitted and was found to be satisfactory.



(Term of validity)
June, 1st 2021 - May, 31st 2023

Date of Issue: 15th June 2021

malaskar

(Dr. Pramod Salaskar)
Dharitree Enviro Research Centre



For Dharitree Enviro Research Centre

malaskar

Proprietor

Prakash

Principal

Arun Muchhala International College of H.M.
THANE

About Arun Muchhala International College of Hotel Management:

Arun Muchhala International College of Hotel Management is an exemplary college. Our approach to education is unique and completely different. We are committed to the highest international standards of academic excellence. To prepare for challenging global business environment, our faculty members, who are industry experts, work closely with our students. Hospitality is the field where one will get ample opportunity of enjoying the life, beside satisfying the need of guests (which is really a tough job, and obviously not cup of tea for every one) with a smile on leap, only if he or she is well trained and mentally prepared to face the hassels of the job. ... And in three Years of Bsc Hospitality Studies, beside giving the students technical knowledge, we show them those corners of their profession and holding their hands tight, we make them mentally prepared, so that, tomorrow in industry, their attitude may make the tough situation easy and they dont run away. Our Hotel Management courses and various activities aim to develop technical and managerial skills among our students and grow love and attraction for the profession. Our highly qualified faculty pool shares their knowledge with students, not for the sake of profession only, but they share their rich experiences with them to keep them uptodate about the facts and figures and present scenario of the industry. We believe our success lies in the success of our students. We wish a height of success for them from where they can set examples for others.

Location:

Country	India
State	Maharashtra
District	Thane
Taluka	Thane
City	Thane
Government Type	Corporation
Area	Anand Nagar
Elevation	26 meter
Population	Approx. 23 lakh
Area Code	+91 – 022
Official Languages	Marathi, Hindi, English



Fig. Satellite image of Arun Muchhala International College of Hotel Management

Geography:

The exact location of Arun Muchhala International College of Hotel Management is $19^{\circ}15,468''$ N, $72^{\circ}58,107''$ E. Its average elevation from mean sea level is 26 m.

In Thane, temperature varies from 22°C to 36°C . Winter temperatures can fall to 12°C at night while summer temperatures can rise to over 40°C at noon. The lowest daytime temperatures are witnessed during the peak of the summer monsoon in July and August when temperatures can drop to about 25°C . Out of total rainfall, 80% rainfall is experienced during June to October. Average annual rainfall is 2000–2500 mm and humidity is 61–86%, making it a humid zone.

Objectives of the Green Audit:

The main objective of the green audit is to promote the Environment Management and Conservation in the College Campus. The purpose of the audit is to identify, quantify, describe, and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies, and standards.

The main objectives of carrying out Green Audit are:

1. To introduce and aware students to real concerns of environment and its sustainability
2. 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.
3. To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.
4. To bring out a status report on environmental compliance

Methodology:

Green audit of the campus is prepared by various methods including different tools such as questionnaire, physical inspection of the campus, observation, and review of the documents, interviewing key persons and data analysis, Observation and recommendations. The study covered the following areas to summaries the present status of environmentally sustainable management on the campus.

- Landscape and plantation
- Solid Waste management
- Sewage Waste management
- E-waste management
- Energy Conservation
- Rain water harvesting
- Environmental activities

Table: Floral diversity observed in and around of the College Campus

Sr. No	Botanical Name	Family	Local Name	Origin Status	Type (Ev/Se/Dc/Sd)	Life Cycle Pattern	IUCN Status
1	Terminalia catappa	Combretaceae	Jangali Badam	Na	Ev	Pr	Not yet assessed
2	Cocos nucifera	Areaceae	Naral	Na	Ev	Pr	Not yet assessed
3	Mangifera indica	Anacardiaceae	Amba	Na	An	Pr	Threatened species
4	Azadirachta indica	Meliaceae	Neem	Na	Ev	Pr	Not yet assessed
5	Pongamia pinnata	Fabaceae	Karanj	Na	Dc	Pr	Least Concern ver 3.1
6	Ficus religiosa	Moraceae	Pimpal	Na	Dc	Pr	Not yet assessed
7	Thespesia populnea	Malvaceae	Paras pipal	Na	Ev	Pr	Not yet assessed
8	Madhuca longifolia	Sapotaceae	Mahua	Na	Dc	Pr	Not yet assessed
9	Bambusa vulgaris	Poaceae	Bambo	Nt	Dc	Pr	Endemic
10	Azadirachta indica	Meliaceae	Kadu limb	Na	Ev	Pr	Not yet assessed
11	Trema orientalis	Cannabaceae	Khargol	Na	Dc	Pr	Not yet assessed
12	Acacia auriculiformis	Mimosaceae	Earleaf Acacia	In	Ev	Pr	Least Concern ver 3.1
13	Lantana camara	Verbenaceae	Ghaneri	Nt		Pr	Not yet assessed
14	Calotropis gigantea	Asclepiadaceae	Rui	Na	Ev	Pr	Not yet assessed
15	Ficus racemosa	Moraceae	Umber	Na	Ev	Pr	Not yet assessed
16	Bombax ceiba	Bombacaceae	Savar	Na	Dc	Pr	Not yet assessed
17	Butea monosperma	Fabaceae	Palash	Na	Dc	Pr	Not yet assessed



18	Polyalthia longifolia	Annonaceae	Ashoka	Na	Ev	Pr	Not yet assessed
19	Tamarindus indica	Fabaceae	Chinch	Na	Ev	Pr	Least Concern ver 3.1
20	Plumeia acuminata	Apocynaceae	Chapha	In	Dc	Pr	Not yet assessed
21	Araucaria excelsa	Araucariaceae	Christ Mas Tree	In	Ev	Pr	Not yet assessed
22	Platycladus orientalis	Cupressaceae	Morpankhi / Thuja	In	Ev	Pr	Not yet assessed
23	Nerium oleander	Apocynaceae	Kaner	Nt	Ev	Pr	Not yet assessed
24	Cassia fistula	Caesalpinaceae	Bahava	Na	Dc	Pr	Not yet assessed
25	Psidium guajava	Myrtaceae	Peru	Na	Ev	Pr	Not yet assessed

Table: Floral diversity observed in and around the College Campus

Na - Native, Nt- Naturalized, In - Introduced, Pr -Perennial, An - Annual, Dc - Deciduous, Ev- Evergreen



For Dharitree Enviro Research Centre

M. Malaske
Proprietor

Principal
Arun Muchhala International College of H.M.
THANE

Table: Avifaunal diversity observed immediate surroundings of the College Campus

Sr. No.	Family	Scientific Name	Common Name	IUCN Status	IWPA Assessment	Feeding Habit	Dwelling Status
1	Corvidae	Corvus splendens	House Crow	Least Concern ver 3.1	Schedule - V	Omnivorous	R
2		Corvus macrorhynchos	Jungle Crow	Least Concern ver 3.1	--	Omnivorous	R
3	Pycnonotidae	Pycnonotus cafer	Red Vented Bulbul	Least Concern ver 3.1	Schedule - IV	Omnivorous	R
4		Pycnonotus jocosus	Red Whiskered Bulbul	Least Concern ver 3.1	Schedule - IV	Omnivorous	R
5	Meropidae	Merops orientalis	Small Bee Eater	Least Concern ver 3.1	--	Insectivorous	R
6	Halcyonidae	Halcyon smyrnensis	White-throated Kingfisher	Least Concern ver 3.1	Schedule - IV	Piscivorous & Insectivorous	R
7	Dicruridae	Dicrurus macrocercus	Black Drongo	Least Concern ver 3.1	Schedule - IV	Omnivorous	R
8	Sturnidae	Acridotheres tristis	Common Myna	Least Concern ver 3.1	Schedule - IV	Omnivorous	R
9	Muscicapidae	Copsychus saularis	Oriental Magpie-Robin	Least Concern ver 3.1	--	Insectivorous & Herbivorous	R
10	Cuculidae	Centropus sinensis	Greater Coucal	Least Concern ver 3.1	Schedule - IV	Carnivorous	R
11	Columbidae	Columba livia	Blue Rock Pigeon	Least Concern ver 3.1	Schedule - V	Granivorous	R
12	Passeridae	Passer domesticus	sparrow	Least Concern ver 3.1	Schedule - V	Omnivorous	R
13	Cuculidae	Eudynamis scolopacea	Asian koel	Least Concern ver 3.1	Schedule - V	Insectivorous	R

[Signature]



Principal
Arun Muchhala International College of H.M.
THANE

For Dharitree Enviro Research Centre 12

[Signature]
Proprietor

Table: Lepidopteran diversity observed in the College Campus

Sr. No.	Common Name	Scientific Name	Family	Status
1	Common Jay	Graphiumdoson	Papilionidae	C
2	Lime Butterfly	Papiliodemoleus	Papilionidae	VC
3	Common Mormon	Papiliopolytes	Papilionidae	VC
4	Common Grass Yellow	Euremahecabe	Pieridae	VC
5	Small Grass Yellow	Euremabrigitta	Pieridae	C
6	Plain Tiger	Danauschrysius	Nymphalidae	VC
7	Common Indian Crow	Euploea core	Nymphalidae	VC



For Dharitree Enviro Research Centre

malaskey
Proprietor

Principal
Arun Muchhala International College of H.N.
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AMBIENT NOISE LEVEL MONITORING		
Date Of Monitoring : 06.06.2021		
Sampling Location : 50 Meter from Main Gate		
Sr. No.	Time	Noise Levels in dB(A) Leq*
1	8.00 am	46.2
2	9.00 am	53.7
3	10.00 am	56.4
4	11.00 am	54.8
5	12.00 am	52.9
6	2.00 pm	49.3
7	4.00 pm	45.0
8	6.00 pm	55.4

NOTE:

- 1) CPCB Limit During Day time < 55. (Day time shall mean from 6.00 am to 10.00 pm.)
- 2) CPCB Limit During Night time < 45. (Night time shall mean from 10.00 pm to 6.00 am.)



Principal
Arun Muchhala International College of H.M.
 THANE



For Dharitree Enviro Research Centre

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 Proprietor

ANALYSIS TEST REPORT			
Sample Collection Date	16/05/2021	Analysis Completed On	02/06/2021
Sampling Point	Canteen		
Sample Details	Drinking Water		
Sample Container	PVC Can	Sample Quantity	2000 ml

Sr. No.	Parameter	Result	Unit	IS desirable Limit (As per IS 10500) (As per IS 10500)	Method
1	pH	7.6	-	6.5 - 8.5	IS 3025 (Part-11): 2022
2	Colour	<5	CU	5.0	IS 3025 (Part-4/4): 2021
3	Odour	Agreeable	-	Agreeable	IS3025 (Part-5):2018:RA 2022
4	TDS	152	mg/lit	500	IS 3025 (Part-16):2023
5	Turbidity	<1.0	NTU	1.00	IS 3025 (Part-10): 1984:RA 2022
6	Ammonia	<0.5	mg/lit	0.5	IS 3025 (Part 34/2.2 & 2.3): 1988:RA 2019
7	Chlorides as Cl	13.1	mg/lit	250.00	IS 3025 (Part 32/2): 1988: RA 2019
8	Fluorides as F	0.9	mg/lit	1.0	APHA (24 th Edition) 4500 F – D - 2022
9	Residual Chlorine	<0.2	mg/lit	0.2	IS 3025 (P-26/5):2021
10	Nitrate as NO ₃	11.4	mg/lit	45.00	APHA (24 th Edition) 4500- NO ₃ -B - 2022
11	Total Alkalinity as CaCO ₃	61.7	mg/lit	200	IS 3025(Part23/8.1):1986: RA 2019
12	Total Hardness as CaCO ₃	73.0	mg/lit	200.00	IS 3025(Part21/5):2009: RA 2019
13	Sulphate as SO ₄	3.2	mg/lit	200.00	APHA (24th Edition) 4500 SO ₄ – E – 2022
14	Cyanide as CN	<0.05	mg/lit	0.05	IS 3025 (Part27/sec1/4) :2021
15	Calcium as Ca	23.8	mg/lit	75.00	IS 3025 (Part40/5):1991: RA 2019
16	Magnesium as Mg	8.2	mg/lit	30.00	IS 3025 (Part 52-6):2003: RA 2019
17	Total Chromium	<0.01	mg/lit	0.05	IS 3025 (Part46/6):1994: RA 2019



Principal

Arun Muchhala International College of H.M.

THANE

For Dhairi Enviro Research Centre

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Proprietor

SOLID WASTE MANAGEMENT

Aim:-

- 1) Scientific disposal of solid waste
- 2) Protection of human health and environment

Objective:-

- 1) To increase recycling level
- 2) To reduce organic waste in landfills
- 3) To control air, water, soil pollution
- 4) Production of green manure and vermicompost.

Activity / Observation:

Solid waste is separated as dry and wet. Dry waste includes plastic, glass, paper, metals, wood and related product. Wet waste typically refers to organic waste usually generated as canteen waste, plant debris. Dry waste is separated and subject to composting to avoid the pollution. Wet waste is also known as organic waste. It is obtained from canteen, fallen leaves, litter, etc. produced in this campus. If it is not disposed properly it creates air pollution, to avoid this we have implemented solid organic waste management activity, we run it at two levels. One is decomposition of solid waste through composting in a compost plant, compost from solid organic waste and second is training to the students, farmers about production of organic manure like vermicomposting, production of mushroom from solid organic agricultural waste which ultimately conversion of Best from Waste, further the best bio fertilizer is used for plants of college campus which enhances greenery leads environment clean and fresh.

ENVIRONMENT AWARENESS PROGRAM

Aim and objective:

- To plan, organize and implement programs like landscape and plantation, water management & conservation, and rain water harvesting.
- To provide education that prepares students for leadership and social responsibility teaching them to think and communicate effectively and develop a global awareness.
- To introduce environmental education programmes for strengthen the existing ecological and environment related training infrastructure.
- To organize training programmes for vocationalization of environmental careers.
- To strengthen Global Environmental Education Programmes for standardization of greening activities.
- To introduce environmental education programmes in strengthen the existing ecological and environment related training infrastructure.
- To make special plans for the studies, like horticulture, plantation, nursery development, water & energy conservation, and management, rain water harvesting and other related fields.
- To provide environmental education that prepares students for leadership and social responsibility by teaching them to think and communicate effectively and develop global environmental awareness and sensitivity.

Ventilation and Indoor Air Quality (IAQ):

- There is adequate size of windows in college class rooms as well as in corridor which allow sufficient light and ventilation.
- Corridors are wide with good ceiling height
- Classrooms also have high ceiling with wide doors. Windows are kept open to receive sunlight
- All classrooms are provided with ceiling fans for proper air circulation.

Water Efficiency & Wastewater Management:

- RO filtration plant has been installed on main building to provide clean drinking water in campus.
- No water leakage observed anywhere in washrooms.
- The students have awareness for water conservation.

Energy Efficiency:

- All the CRT monitors of computers have been replaced with LED monitors.
- Computers are kept switched off when not required to operate.
- Save energy posters/stickers such as "Switch off all electrical equipment's when not required to use" at maximum locations to spread energy conservation awareness.
- All conventional incandescent bulbs are replaced with LED bulbs.

Energy Generation in campus:

- UPS/inverters are installed with batteries for power back up in individual labs and offices. Hence there is no source of pollution caused by power generators.

Ambiance and Acoustic Control:

- Tree plantation in and around the campus help in reducing ambient temperature and acoustic control.
- The college is located away from road side so there is no major noise pollution.

Waste Management:

Paper waste

- Being academic institution, waste paper is the main solid waste generated in the premises. The institution has taken steps to minimize usage of papers by implementing e-notice board.

- Both sides of the pages are utilized to avoid excess paper usages.
- Paper wastes are not directly disposed off in dustbin; it is given to local vendors for recycling and reuse.

E-waste

- The college has taken initiative to segregate and collect e-wastes and stored at designated place for its proper disposal.

Canteen and Solid Waste Management

- Wet and dry wastes are segregated in college canteens and directly handed over to the concern Municipal Corporation for disposal.
- Bio-degradable and non-biodegradable waste generated in labs, are also segregated and disposed of through Municipal Corporation

Green initiatives:

- Trees are planted in the periphery of the ground and pathway sides in proper manner.
- The college has taken initiative for wide range of activities such as Swatch Bharat Campaign, poster competition, environment campaign for plantation, awareness on water conservation, essay competition and energy conservation to inculcate ecological awareness.

Access, Maintenance and emergency plan of the Building:

- There is wide and easy access to the college campus from the main road.
- Staircases are provided with handrails.
- The main building and extension building structures are well maintained.
- Portable Fire Extinguishers are placed at prominent locations to handle minor fire.
- Good housekeeping practices are followed.

Observation:

- Many plants were observed on 1st and 2nd floor of the college. Many flowering trees, which bloom in different seasons, in front of the large trees and along the periphery were planted.
- Tank top cover of all drinking water coolers should be locked and date of last cleaning and due date to be displayed.
- Speed Breaker on both side of Main gate and Display board College ahead No Honking are

observed on main road in front of college gate.

- Fire Extinguishers are placed on every floor and in Labs. Suitable signage for fire/emergency exit and assembly points to be placed where required.

Suggestion/Recommendations:

- Water recycling/sewage treatment plants may be installed and recycled water to be used for gardening/horticulture and toilet flushing etc.
- Energy meter may be provided separately for each department to monitor and control monthly electricity consumption and records to be maintained.
- All CFL may be replaced with LED lamps to save energy.
- Annual consumption target for paper may be given to the department as per requirement and shall be monitored with records to understand the impact of digitization in the college.
- Students may be involved to practice on reduction of electricity consumption and various methods to reduce paper consumption.
- Internal notices and communications can be done through e- mail/SMS to reduce paper uses.



For Dhavitree Enviro Research Centre

malaske
Proprietor

A handwritten signature in black ink, appearing to read "Arun Muchhala".

Principal
Arun Muchhala International College of N.M.