



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



**Year: 2021-2023**

## **Preface**

Arun Muchhala International College of Hotel Management aims at producing awareness about the environment consciousness. The institute takes initiatives to organize different events of green practices to percolate the knowledge amongst students, teachers, and nonteaching staff. This green message being transferred along with its practical dimensions among the families, societies and thereby to the stakeholders, forms a chain and network to spread the message at large. College is also aimed at giving solution to the different burning topics related to the environment, its awareness as well as its protection. As the government is taking initiative to sensitize mass with environment protection, newer concepts are being introduced to make college eco-friendly. To create and conserve the environment within the campus and to solve the environmental problems such as promotion of the energy savings, energy conservation, water reduction, water harvesting, solid waste management, improvement in the air quality of the campus, control on noise pollution, and minimizing the use of Plastic, etc. is one of the prime objective of the college.

Environment audit report is one such initiative that has been introduced to make the educational institute environmentally sustainable and active in spreading the education about the same. It is a tool to assess general practices implemented by the organization in terms of the impact on environment. The report also aims to spread the awareness on the adverse practices that are responsible for the degradation of the environment and how strongly the institute is involved in curtailing those practises. It helps in recognizing the need of a college to work around the year for environment sustainability. Thus, Environment audit forms the base line survey to decide for the Green policy.

### **Acknowledgement**

We take this opportunity to express our gratitude towards the president of the Institute, Hon. Founder Chairperson, Mr.Aarav Muchhala and all Honourable 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 "Environmental 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,

Environmental Audit Report

**Principal Message....**

I express my hearty wishes for success of this publication of 'Environmental 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), 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 Environmental Audit Report for the new beginning of the conservation from the doorstep of the people.

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



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ENVIRONMENTAL AUDIT REPORT COMMITTEE

Year - 2022-2023

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. Arunkumar Pillai	Assistant Professor	Internal Auditor
6	Mrs. Prajakta Dhuri	Assistant Professor	Internal Auditor

*Bipin*  
*Salaskar*  
*Runa*  
*Deepa*  
*Arunkumar*  
*Prajakta*



## CERTIFICATE OF ENVIRONMENTAL AUDIT

This is to certify that

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 Environmental Audit to  
establish Eco-friendly practices for conservation of  
environment at all stages. The environmental awareness  
initiatives taken by the college are substantial to meet all  
the standards for maintaining a sustainable environment  
in the college premises.



(Term of validity)  
June, 1<sup>st</sup> 2021 - May, 31<sup>st</sup> 2023

Date of Issue: 15th June 2021

(Dr. Pramod Salaskar)  
Dharitree Enviro Research Centre



For Dharitree Enviro Research Centre

Proprietor

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 share 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 suces 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  $22^{\circ}\text{C}$  to  $36^{\circ}\text{C}$ . Winter temperatures can fall to  $12^{\circ}\text{C}$  at night while summer temperatures can rise to over  $40^{\circ}\text{C}$  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  $25^{\circ}\text{C}$ . 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.

### **NEED FOR ENVIRONMENT AUDITING:**

Environment auditing is the process of identification and determination of the institution's practices in creating awareness and practising the environment friendly measures. Over the period of time over exploitation of resources like energy, water, etc. have resulted in the environmental degradation. It is necessary to check whether our way of living and handling resources is not going to cause detrimental effects in our surroundings. Environment audit Report aims at summarising the college's contribution and its activeness in creating awareness and consciousness in practically applying the environmental friendly measures towards an institute.

### **GOALS OF ENVIRONMENT AUDIT:**

Identification and documentation of environment practices followed by university.

2. Identify strength and weakness in environment practices.
3. Analyze and suggest solution for problems identified.
4. Assess facility of different types of waste management.
5. Increase environmental awareness throughout campus
6. Identify and assess environmental risk.
7. Motivates staff for optimized sustainable use of available resources.
8. The long-term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental issue before they become problem.

### **OBJECTIVES OF ENVIRONMENT AUDIT:**

1. To examine the current practices, which can impact on environment such as of resource utilization, waste management etc.
2. To identify and analyze significant environmental issues.
3. Setup goal, vision, and mission for environment practices in campus.
4. Establish and implement Environment Management in various departments.
5. Continuous assessment for betterment in performance in environment

### **BENEFITS OF ENVIRONMENT AUDIT TO EDUCATIONAL INSTITUTIONS:**

1. It would help to protect the environment in and around the campus.
2. Recognize the cost saving methods through waste minimization and energy conservation.
3. Empower the organization to frame a better environmental performance.
4. It portrays good image of institution through its clean and green campus. Finally, it will help to build positive impression for through green initiatives the upcoming NAAC visit

**OBJECTIVE AND SCOPE:**

1. Environmental education through systematic environmental management approach
2. Improving environmental standards
3. Benchmarking for environmental protection initiatives
4. Sustainable use of natural resource in the campus.
5. Financial savings through a reduction in resource use
6. Curriculum enrichment through practical experience
7. Development of ownership, personal and social responsibility for the College campus and its environment
8. Enhancement of College profile
9. Developing an environmental ethic and value systems in young people

**EXECUTIVE SUMMARY:**

An environmental audit is a snapshot in time, in which one assesses campus performance in complying with applicable environmental laws and regulations. Though a helpful benchmark, the audit almost immediately becomes outdated unless there is some mechanism in place to continue the effort of monitoring environmental compliance. This audit report contains observations and recommendations for improvement of environmental consciousness.



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	Arecaceae	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	Moraceae	Umber	Na	Ev	Pr	Not yet



	racemosa						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	Platyclus 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	<u>Myrtaceae</u>	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 Director, Centre

malhotra  
Proprietor

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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	Acridothera 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



Principal  
Arun Muchhala International College of H.M.  
THANE

For Dharitree Enviro Research Centre



Proprietor 13



**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	Papillodemoleus	Papilionidae	VC
3	Common Mormon	Papiliopolytes	Papilionidae	VC
4	Common Grass Yellow	Euremahecabe	Pieridae	VC
5	Common Indian Crow	Euploea core	Nymphalidae	VC
6	Plain Tiger	Danauschrysisippus	Nymphalidae	VC

C: Common ; VC: Very Common

For Dharitree Enviro Research Centre

  
Proprietor



**Principal**  
Arun Muchhala International College of H.M.  
THANE



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.)



For Dharitree Enviro Research Centre

*m. calankar*  
Proprietor

*Prashant*

Principal  
Arun Muchhala International College of H.M.  
THANE

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 <sup>th</sup> Edition) 4500 F- D - 2022
9	Residual Chlorine	<0.2	mg/lit	0.2	IS 3025 (P-26/5):2021
10	Nitrate as NO <sub>3</sub>	11.4	mg/lit	45.00	APHA (24 <sup>th</sup> Edition) 4500- NO <sub>3</sub> -B - 2022
11	Total Alkalinity as CaCO <sub>3</sub>	61.7	mg/lit	200	IS 3025(Part23/8.1):1986: RA 2019
12	Total Hardness as CaCO <sub>3</sub>	73.0	mg/lit	200.00	IS 3025(Part21/5):2009: RA 2019
13	Sulphate as SO <sub>4</sub>	3.2	mg/lit	200.00	APHA (24th Edition) 4500 SO <sub>4</sub> - 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.

For Dharitree Enviro Resear

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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 vermicomposting.

### Activity / Observation:

The college has a proper solid waste management system. A 'tumbler composte' unit has been installed for treatment of wet waste and garden litter. It consists of two drums of 110 litre capacity each. The capacity of each drum is 80 kg, at intake capacity of 8-10 kg per day. With the combined action of the starter culture, aeration, moisture and mixing of components, the compost is generated within a curing period of 20-25 days. The output is 20% of the total input. The manure, thus, generated is utilized for in- house garden plants. Waste which cannot be treated in tumbler composte is segregated and handed over to the Thane Municipal Corporation for safe disposal.

## **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.

#### 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 is generated labs, are also segregated and disposed of through Municipal Corporation

#### Summary:

Environment Audit is one of the important tools to check the balance of natural resources and its judicial use. Environment auditing is the process of identifying and determining whether institutional practices are eco-friendly and sustainable. It is a process of regular identification, quantification, documenting, reporting and monitoring of environmentally important components in a specified area. Arun Muchhala International College of Hotel Management has conducted a "Environment Audit" in the academic year 2021. The main objective to carry out environment audit is to check the green practices followed by Arun Muchhala International College of Hotel Management and to conduct a well-defined audit report to understand whether the Institute is on the track of sustainable development.

#### Recommendations:

- CFL lamps can be used in all sections to minimize the usage of fluorescent tubes
- Waste water management still needs to be practiced and designed in the campus.
- Drips and sprinklers can be used for watering the gardens and lawns.
- Roof top rain water harvesting can be designed and constructed.
- Special days like van Mahotsav, various International environmental days can be celebrated
  - Plant gifting can be done
  - Workshops on plant propogation, micro greens, dish garden, garden care can be taken



For Dharitree Enviro Research Centre

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