



बहुउद्देशिय
महिला संघ
श्रीमती वनिता तिरपुडे (संचालिका)

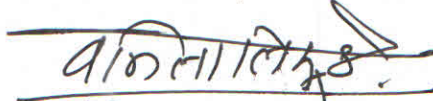
बहुउद्देशिय महिला संघ

संचालिका
श्रीमती वनिता तिरपुडे

निंबुनाबाई तिरपुडे हॉस्पिटल, चॉक्स कॉलोनी, कामठी रोड, नागपूर. फोन : 0712-2640305, 6540838

Green Audit Certificate

This is to certify that Shri Balasaheb Tirpude College of Hotel Management and Catering Technology, Nagpur conducted detailed Environmental Green Audit dated 6th May to 10th May, 2023 of their campus and has submitted necessary data and credentials for scrutiny. The activities and measures carried out by college have been verified based on the report submitted and was found to be satisfactory. The effort taken by the faculty and students towards environment and sustainability is highly appreciated and commendable.


12.5.23

Mrs. Vanita Tirpude

अध्यक्ष / सचिव
Director

बहुउद्देशिय महिला संघ
Bahu-Uddeshiya Mahila Sangh

Code-F-1618(Nagpur)

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Green Audit Report of Shri Balasaheb
Tirpude College of Hotel Management and
Catering Technology

2022-23

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Conducted by Bahu- Uddeshiya Mahila Sangh, Nagpur



YUGANTAR EDUCATION SOCIETY'S

**SHRI BALASAHEB TIRPUDE COLLEGE OF HOTEL
MANAGEMENT AND CATERING TECHNOLOGY**

(Approved by AICTE, New Delhi, Govt. of India, Govt. of Maharashtra & Nagpur University, Nagpur)

1, Shri Balasaheb Tirpude Marg, Civil Lines, Sadar, Nagpur - 440001 Phone (Off.) : +91 712 2550695, 2550032

Email : tirpudehmct@gmail.com Visit us at - www.tirpudehmct.ac.in

AICTE Permanent Institute Id : 1-14318331 • DTE Institute Code : HM4219 • RTM College Code - 007

AISHE Code : C-18976

Ref: SBTC/HMCT/2023/215/439 (A)

Date:2/05/2023

To,

Bahu- Uddeshiya Mahila Sangh

Nimbunabai Tirpude Hospital, Chalks Colony,

Kamptee Road,

Nagpur, India, 440014

Subject: Request for conducting Energy Audit Green Audit, and Environment Audit as per NAAC requirements at Shri Balasaheb Tirpude College of Hotel Management & Catering Technology, Civil Lines, Sadar, Nagpur, Maharashtra 440001.

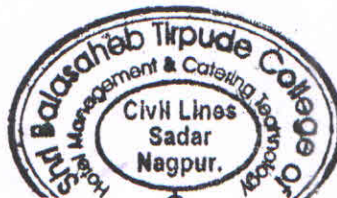
Respected Sir/Madam,

Shri Balasaheb Tirpude College of Hotel Management and Catering Technology was established in 1994 by the Yugantar Education Society an institution devoted to responding of education among all sections of society. The Yugantar Education society during 92 years of existence has created a niche for itself throughout Maharashtra and the college is now one of the leading institutes of Central India. The college is affiliated to RTM Nagpur University and approved by AICTE, New Delhi as well as Technical Education Board. Govt. of Maharashtra is a brief introduction of the Institute.

This year the Institution is applying for National Assessment and Accreditation Council, First Cycle for that college seeks your help for conduction of Energy Audit Green Audit, and Environment Audit as per NAAC requirements, seeking your valuable guidance. I request you to kindly assist in this matter as this is an absolutely new subject for us.

Regards,

Mr. Akshay Dandale
OFFICIATING PRINCIPAL
Shri Balasaheb Tirpude
College of Hotel Management
& Catering Technology, Nagpur.



अध्यक्ष / सचिव
बहुउद्देशिय महिला संघ
नागपूर-१७

Executive Summery

Sustainability has become a core concern among younger generations who aspire for an eco-friendly world. There is self-reflection among students about their actions and how the larger community can shape sustainable development, which can create a better carbon footprint. A collective effort from Institute to highlight environmental education has a positive impact that begins at the student level and permeates through society.

A Green Campus is a place where environmentally friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green practices of Institutes offer the opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind.

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.

Green Auditing of a Higher Education Institution is required as a part of Criterion VII (of the 7 criteria prescribed) under the Guidelines for Submission of the mandatory annual Internal Quality Assurance Report (IQAR) by Accredited Institutions.

The audit works on the several facets of Green Campus Practices including Water Conservation, Tree Plantation, Waste Management, Paperless Work, and Alternative Energy. With this in mind, the specific objectives of the audit were to evaluate the adequacy of the management control framework of environment sustainability.



17.5.23
अध्यक्ष/सचिव
बहुउद्देशिय महिला संघ
नागपुर-१७

Introduction

Green Audit is a step-by-step reviewing process that helps in the systematic identification, quantification, analysis, and reporting of the critical aspects that matter in the environmental assessment of a site. It analyzes and determines the ideal environmental practices inside the concerned sites. In short, it is impactful for developing an eco-friendly ambiance.

Environmental sustainability is a growing concern throughout the country. Especially important in Higher Education Institutions (HEIs) as they train the future leaders of sustainable movement. The campus's green effect is critical to ensuring the sustainable and healthy learning environment for everyone involved with the facility. The green influence on the campus is vital to guarantee the best learning environment and healthy ecosystem for everyone associated with the site.

A green audit is critical for a college in determining the best grades from the National Assessment and Accreditation. The audit reports exhibit the practical ways through which colleges and universities are consuming natural resources and energy. The reports determine whether the educational campus is exploiting the various natural resources.

This audit examines several aspects of organizational/institutional activities. Audits evaluate whether Institute's operations have any effect on the air, water, or soil by following means:

Self-assessment - It enables institute to examine and adopt the best measures for their campuses. The audit helps with self-evaluation and decision-making.

Awareness - Through deliberate and continuous efforts, it raises awareness to promote sustainability among everyone affiliated with the institution.

Improved scopes – By complying with the norms, universities can ensure higher scopes of getting the best grade from NAAC. It is vital to follow the systematic way and implement the best steps for green audits on the campus under professional guidance.

The role of the report – Based on the audit reports, the college can make the best strategies to make the campus ideal for students, teachers, and anyone associated. It also helps the college acknowledge the wastage volume and consider different recycling projects for developing a sustainable ecosystem for the learners. Simply put, it is a way to minimize wastage and create a more suitable place for learning with improved NAAC grades.

Objectives of the audit

- To secure the best practices for environmental sustainability.
- To reduce the possibilities of health hazards and threats for the students on the learning campus.
- To conform the norms and standards in the environmental management system.
- To identify the ideal protocols that develop a sustainable ecosystem on the campus.
- To recognize cost-effective methods for waste management.
- To set and promote an enhanced learning ecosystem and obtain the top grade.
- To help in portraying a credible branding of the educational institution.

About the Institute

Shri Balasaheb Tirpude College of Hotel Management and Catering Technology was established in 1994 by the Yugantar Education Society an institution devoted to responding of education among all sections of society. The Yugantar Education society during 92 years of existence has created a niche for itself throughout Maharashtra and the college is now one of the leading institutes of Central India. The college is affiliated to RTM Nagpur University and approved by AICTE, New Delhi as well as Technical Education Board. Govt. of Maharashtra.

The college has excellent infrastructure compressing of three storied building which houses well equipped kitchens, training restaurants, bar & has bakery, classrooms, front office lab, training guest room, laundry conference and seminar hall, computers lab library boy's common room, girls' common room.



Being a successful hotel manager means having firsthand experience of every aspect of running hotels. Hotel managers who have proven the most successful in their profession are those who are efficient in both the managerial aspects of their job. A fine-

tuned perception as regards customer satisfaction and communication is as essential quality in any industry, which involves contact with public.

Shri Balasaheb Tarpude College of Hotel Management and Catering Technology offers its students an opportunity to develop their practical management and communication skills and provides each individual student with the training and know-how required for a successful career in the highly competitive industry.

The structure of the academic program achieves this by combining management theory with practical experiences. The combination of 4 years of academic term with 6 months industrial training allows both the theoretical and practical aspects of hospitality to be developed.

Institute association with Bahu- Uddeshiya Mahila Sangh

Address: Nimbunabai Tirpude Hospital, Chalks Colony, Kamptee Road, Nagpur, India,
440014

Previously there was no association between Bahu- Uddeshiya Mahila Sangh and Shri Balasaheb Tirpude college of Hotel Management and Catering Technology, Nagpur.

Methodology

The purpose of the green audit of Shri Balasaheb Tirpude College of Hotel Management and Catering Technology is to ensure that the practices followed in the campus are in accordance with the Green Policy of the country. The methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.

Observations

A- Green Cover/ Green Monitory

College Map

Map of Shri Balasaheb Tirpude College of Hotel Management and Catering Technology
Nagpur



Photo 1 Aerial view of Institute campus



Photo 2 overall view for green audit

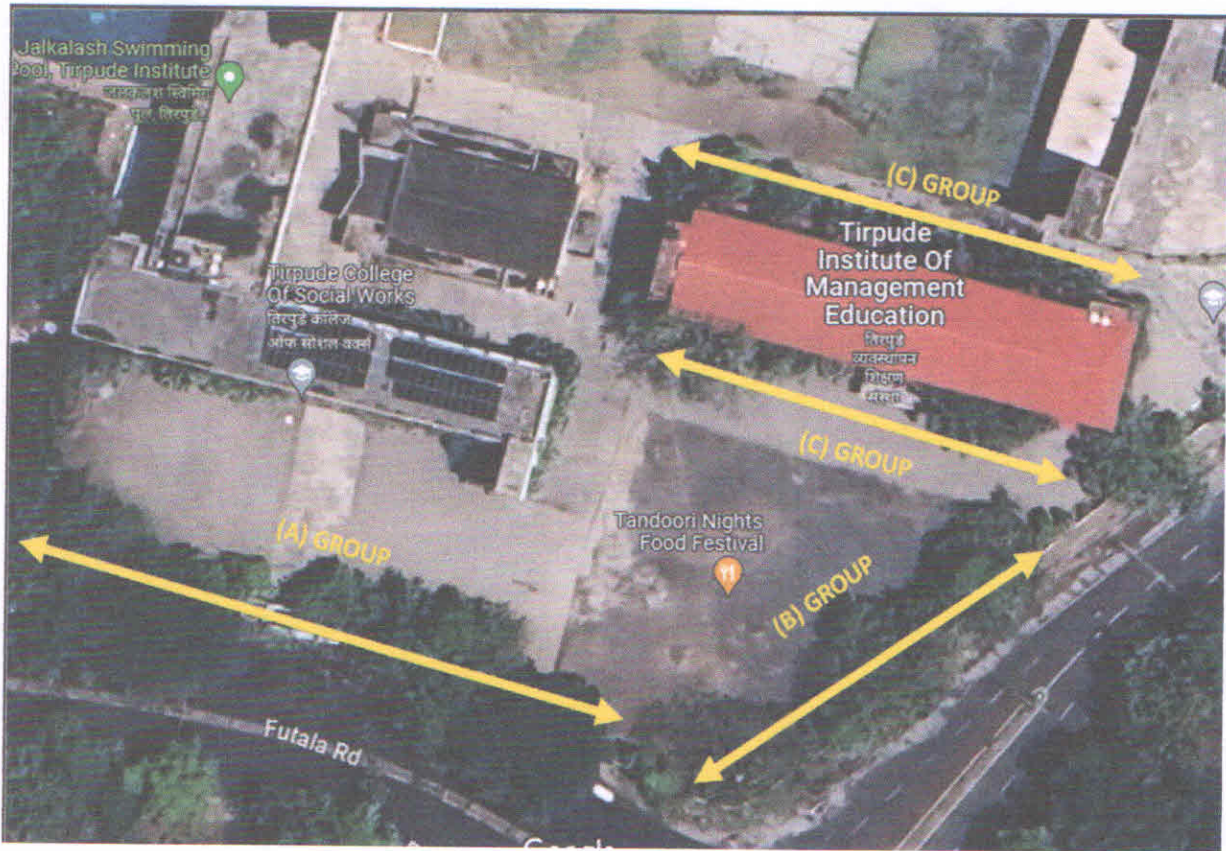


Photo 4 Front area view for green audit



Photo 3 Back area view for green audit

Table1: Utilization of Land

Sr. No	Categories	Area in Square meter
1.	Build up Area (Include Roads)	4173.725
2.	Green Cover Area (forest patch, Park, Plantations Area)	31491.475
	Total Area	35665.20

i. Climatic Parameters:

The climate of Nagpur is tropical, with a rainy season from June to mid-October, due to the monsoon, and a dry season from mid-October to May. The rains usually end in early or mid-October.

The city is located in central India, in the state of Maharashtra, at 21 degrees north latitude and 300 meters (985 feet) above sea level. From March to early June, before the monsoon, it is very hot, and showers occasionally occur, especially in May. In the hottest periods, the temperature can exceed 45 °C (113 °F). Nagpur is one of the hottest cities in India, and the heatwaves occurring during this period constitute a public health emergency. The temperature can reach 47.9 °C (118.2 °F) in late May, 47.7 °C (117.9 °F) in early June, and 47.1 °C (116.8 °F) in late April. Even at night it can be very hot, and on the hottest days a minimum temperature of 33/34 °C (91/93 °F) was recorded.

On the other hand, nights are cool from November to February, and can sometimes be even a bit cold when air masses come from the north. At the end of December, the temperature dropped to 3.5 °C (38.3 °F), although it reached 24 °C (75 °F) during the day.

Nagpur is in the path of tropical cyclones. Typically, cyclones occur from April to December, with two intensity peaks before and after the monsoon (from late April to early





June and in October-November). Since we are far from the coast, the city is not hit by cyclones at full strength, however, they can bring heavy rainfall.


Precipitation amounts to 1100 millimeters (43.3 inches) per year: it is therefore quite abundant. It ranges from 9 mm (0.4 in) in the driest month (April) to 315 mm (12.4 in) in the wettest one (July). Here is the average precipitation.

There are on average around 2760 sunshine hours per year. Here are the average hours of sunshine per day.








ii. **Biodiversity status:**








The campus of Institute is located at sub tropical climatic conditions. Following are the list of flora found in the premises of Institute:


SR.NO	PICTURES	NAME OF PLANT (Species)	QUANTITY
1		Areca Palm	49
2		Lemon Tree	1
3		Cuban Royal Palm	13
4		Nerium	14

5		Cordia	1
6		Elephant Foot Yam	5
7		Guava	3
8		Hibiscus	3
9		Neem Tree	6
10		Taro	2
11		Mango Tree	5








12		Polyalthia longifolia	16
13		Bitter vine	7
14		Ficus Tinctoria	7
15		Cryptolepis dubia	5
16		Great Morinda	12
17		Mandarin Orange	2
18		Pereskia grandifolia	5

19		Rugosa Rose	3
20		Climbing Fig	12
21		Crapemyrtle	21
22		American Evergreen	2
23		Pomegranate tree	2
24		Lemon Grass	5
25		Adenanthera	1





26		Tiplant	3
27		Caesalpinia Pulcherrima	46
28		Arabic Coffee	12
29		Polyalthia longifolia	8
30		Milkwood	5
31		Basil	14
32		Acalypha indica	6

33		Carpinus orientalis	18
34		Terminalia Catappa	7
35		Syzygium Cumini	18
36		Hibiscus Rosa	14
37		Millettia Pinnata	9
38		Sarcococca Ruscifolia	7
39		Royal Poinciana	7

40		Duranta Erecta	12
41		Bauhinia Purpurea	17
42		Ficus Hispida	46
43		Bougainvillea Glabra	32
44		Dracaena reflexa	43
45		Wrightia pubescens	36
46		Polyalthia longifolia	3

47		Acalypha indica	4
48		Ficus arnottiana	2
49		Gardenia jasminoides	4
50		Kapok	5
51		Paper mulberry	17
52		American Evergreen	2
53		Ficus pertusa	8

54		Areca palm	49
57		Coccinia Grandis	10
58		Tinospora Cordifolia	1
59		Ivy ground	1
60		Tiplant	5
61		Geranium Aralia	3
62		Codiaeum variegatum	4

63		Scarlet Jungleflame	5
64		Degroots Spire Arborvitae	1
65		Trailing Shrubverbena	4
66		Crown of Thorns	2

B- Water resource Management and Water Harvesting

Institute rely on Nagpur Municipal Corporation for the supply of drinking water and also has its own well for meeting its water requirements for various purposes such, use in washrooms, sanitary, cleaning and gardening. There are 03 large water coolers 01 small for meeting drinking water demand of the students and employee. All the training kitchen and Bakery are equipped with RO and UV filter for water purification. Dripping of AC and are used for gardening and filling of coolers. The audit team did not find any leakage in the taps of washrooms and in other areas. The water from well is lifted to overhead tanks through an electric motor.

C- Energy Management

Electricity is mainly needed for lighting the rooms, cooling the rooms in summer, in water coolers and heating in the bakery and kitchen, freezers and running computer systems. Apart from this, Institute has its own well connected with electric motor. Water from the well is lifted to overhead tanks placed in the roof top daily and for the purpose machine runs for 2 hours daily. To save the consumption of energy Institute has installed the Solar System and LED lights.

D- Waste Disposal and Management

Both biodegradable as well as non-biodegradable wastes are generated from various sections of the Institute. The principal waste includes paper, organic, electronic wastes, canteen waste and other solid wastes. Since, Institute operates on Off-line mode therefore the waste generated through classroom activity and student's activities is in considerable amount. Whereas, plastic wastes are completely or strictly banned in the Institute campus. The Institute waste disposal is managed by Nagpur Municipal Corporation, the Institute However, following provisions have been made:

- i. Biodegradable:** There are two kinds of dustbins (Red and Blue) placed at every floor to collect the waste separately (blue for biodegradable and red for non-biodegradable). Thereafter, the biodegradable waste produced from various departments, sports ground or other areas is put into compost maker and biogas plant for making compost to use in manuring garden plants.
- ii. Non-Biodegradable:** There is very low quantity of non-degradable waste in the campus and sent for the disposal through waste collection vehicle of NMC.

Biogas

To deal with waste generated in kitchen and bakery practical the Institute has installed the Biogas plant in which all the dry waste obtained from given source are collected and converted into biogas which later used for preparing staff teas. Remains then utilized as compost and given to gardener to use in maneuvering plantation in Institute Premises.

Sustainability Indicators, points and ranking by Bahu- Uddeshiya Mahila

Sangh

A- Green Cover/ Green Monitory

Sr. No.	Assessment Criteria	Points	Grade	Grade allotted
1.	33% and above	10	A+	A+
2.	22-32%	8	A	
3.	17%-21%	6	B+	
4.	11%	4	B	
5.	Less than 11%	3	C+	
6.	No green cover	0	C	

Random Pictures and Photographs of the work





The campus is overall covered with greenery. Most of the areas are covered like hostel areas, entrance area ground. The campus is lacking in botanical garden. The grade 'A+' is which I will be giving from my side.

B- Water resource Management and Water Harvesting

Sr. No.	Assessment Criteria	Points	Grade	Remarks
1.	88%	10	A+	B+
2.	70%	7	A	
3.	60%	6	B+	
4.	50%	5	B	
5.	Less than 50%	4	C+	
6.	No surface water harvested	0	C	

Random Pictures and Photographs of the work





There is rooftop water harvesting system which is connected to well. All the roof water is collected in well. Later used in washroom, kitchens, bakery and gardening. The grade B+ is which I will be giving from my side

C- Energy Management/Roof Top System

Sr. No.	Assessment Criteria	Points	Grade	Remarks
1.	Contribution to grid after used	10	A+	A+
2.	100% self-dependent	8	A	
3.	75% self-dependent	6	B+	
4.	60-69% self-dependent	5	B	
5.	50% and below self-dependent	0	C+	
6.	No solar power	0	C	

There is very proper Rooftop Solar System in the campus. As you see in the below picture there is a proper installation of solar panels which leads to less electricity bills. If the electricity remaining then it is sold to Maharashtra State Electricity Board (MSEB).

Institute also placed the energy conservation signage in various areas for efficient use of energy. Satisfactory work. the grade 'A+' is which I will give from my side.

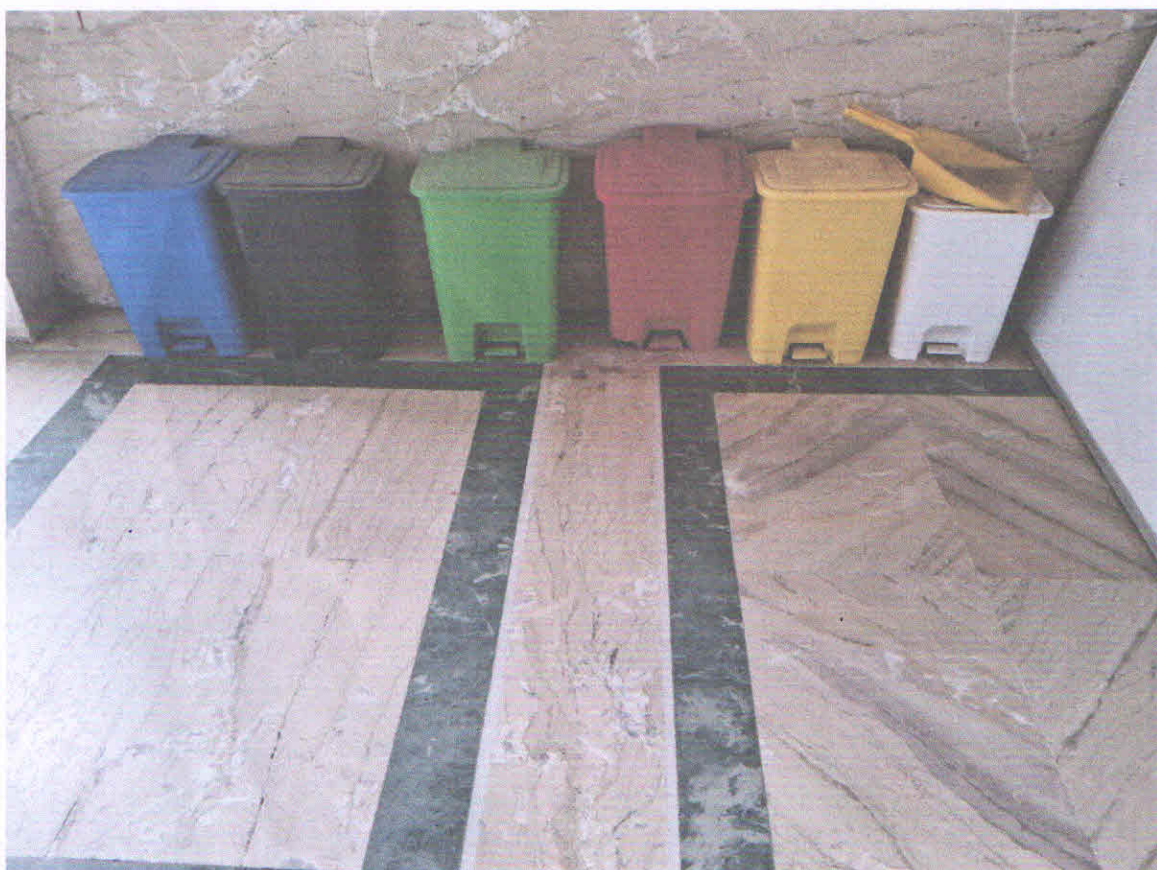
Random Pictures and Photographs of the work



D- Waste Disposal and Management

Sr. No.	Assessment Criteria	Points	Grade	Remarks
1.	100% Waste recycled	10	A+	A
2.	75% Waste recycled	7	A	
3.	50-75% Waste Recycled & Managed	5	B+	
4.	Below 40-49% waste recycled & managed		B	
5.	Below 40 % waste recycled & managed		C+	
6.	No waste managed & no waste recycled		C	

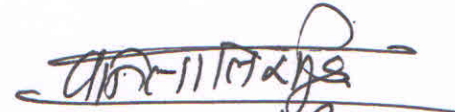
Random Pictures and Photographs of the work



The campus is overall good also recycled the waste in some extend. There is also the placement of dustbins for segregation of waste. The grade A is which I will be giving my side.

Recommendations

1. Focus to assess the consumption of energy, electricity, water as well as disposal of liquid waste, solid waste, and an inventory of trees in the campus is also prepared to make sure reduction carbon foot print.
2. Various awareness programs will be helpful to motivate all the staff members for optimized sustainable use of available resources.
3. The long-term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental issue.
4. Evaluation of Green practices followed by different departments, support services and administration.
5. The Green Audit Report on environment must reach the public so that it would succeed in reducing the environmental issues and its popularization among stakeholders.


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