

Green Audit Report

2022-2023



IQBAL MEMORIAL TRUST'S GROUP OF INSTITUTIONS

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TO WHOM IT MAY CONCERN

Certificate

Green Audit Certificate

Academic Year 2022-23

This is to certify that Iqbal Institute of Technology & Management, Laloo, Sheshgaribagh, Hyderpora, Srinagar, J&K, has good environment Climate that are created for saving earth's nature and has established eco friendly practices and management systems for conservation of environment at all levels. The college's awareness about Sustainable Development Goals (SDGs) will surely boost the future generation to take good care of the environment and also propagate the same through actions.

For Aaqib Nazeer & Associates
Chartered Accountants
FRN 035797N



Place Srinagar,
Dated: 29/12/2022

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INTRODUCTION

A Green Audit, also known as an Environmental Audit or Eco-Audit, is a systematic assessment of an organization's operations, processes, and practices to identify their environmental impacts and evaluate their compliance with environmental regulations and standards. The primary objective is to determine the organization's environmental performance, identify areas for improvement, and implement measures to enhance sustainability and minimize ecological footprints.

The Importance of Green Auditing:

Green Audits promote responsible environmental management by examining an organization's influence on natural resources, ecosystems, and biodiversity. It aids in the development of an organizational culture of environmental stewardship and accountability. Green Audits assist firms in identifying potential risks of noncompliance and implementing corrective actions to mitigate them by reviewing compliance with environmental laws, rules, and standards. This can help to avoid legal responsibilities, penalties, and reputational harm.

Resource Efficiency: Green Audits evaluate the effectiveness of an organization's resource use, such as energy, water, and materials. Organizations can implement strategies to optimize resource use, reduce costs, and boost production by identifying areas of waste or inefficiency.

Sustainability Objectives: In today's global climate, sustainability is more than simply a buzzword.

Vision of IITM

“To contribute to the society through excellence in technical education and provide globally competitive work force through education, training and partnership with industry”

Mission of IITM

To impart quality professional and technical education to students, inculcating in them national/ global perspective, leadership attitude, co-operative spirit, cultural outlook, ethical values, social responsibilities and healthy habits so as to contribute to the technological, economic and social development of the state.. To inculcate a value based education through fostering of dedication in staff and motivating students. To create effective interface with the industry and community to impart quality education at par with the best in the country and the world .

OBJECTIVES

The main objectives of Environmental Audit in Academic Institution are:

- To understand the awareness of employees and learners towards environmental conservation.
- To recognize the initiative taken by organization towards environmental conservation.

- To understand and recognize the effects of an organization on the environment and vice versa.
- To ensure that natural resources are utilized properly as per national policy of environment.
- To study waste minimization and safe disposal of waste particularly hazardous wastes.
- Initiatives for water and energy conservation.
- Contribution and participation by various stake holders in the environmental conservation and management.
- To diagnose and find out solutions for the environmental problems.

SCOPE AND GOAL OF ENVIRONMENTAL AUDITING:

Recognizing the crucial relevance of environmental sustainability, the Government of India mandated through its National Environment Policy (2020) that every organization undergo a green audit or environmental audit. This directive demonstrates the government's commitment to ensure that businesses and institutions from all sectors emphasize environmental responsibility and use sustainable practices.

Methodology

An environmental audit has three phases - pre-audit stage, audit stage and post-audit stage, accordingly the environmental audit was conducted.

Pre-Audit Stage

Pre-audit stage involved the identification of target areas for environmental auditing. Accordingly following target areas were identified:

Land Use System

- **Climatic Conditions**
- **Biodiversity status**
- **Air Quality**
- **Noise pollution**
- **Water resources and Management**
- **Energy Consumption**
- **Waste disposal and management**
- **Environmental Awareness**
- **Mitigation and Management Process**

AUDIT STAGE

(A) Collection of data, observation and interaction: This stage of the Audit involved the activities relating to collection of data, observation, interactions and discussion with the concerned stakeholders i.e., faculty, administration and staff members from different departments and sections of the college. A mixture of open ended and closed ended questionnaires were developed and used for data collection. Meetings with specific stakeholders of different target groups identified in the pre-audit stage were conducted for getting the desired information. Detailed discussions on some specific topic were also held.

(B) Review of previous records and policies: This was carried out in order to understand the various initiatives taken by the college towards sustainable environmental conservation and amelioration. For the purpose, office registers, visitor's book, purchase registers, office communications were also examined. Further, the published material such as prospectus, annual reports, bulletins, and other magazines were also studied by the audit team for getting information / data on the target aspects.

(C) Inspection of departments/sections/various sites: The audit team also visited the various departments, sections, offices and its premises in order to have an idea of various activities carried. Campus greenery and gaps were identified. Team also had a visit to play ground, canteen, library, office rooms and parking area.

(D) The stakeholders: The stakeholders included were teaching staff from different schools, people from administration, water supply and maintenance, electricity department and ICT. The committee set

up for the purpose discussed the issues related with key target areas. Questionnaires were prepared forgetting information and accordingly meeting with concerned stakeholders were conducted. Data on water and energy use was collected from maintenance department.

Post-Audit Stage

The Post-Audit Stage includes the production of the final report, prepare action plan to overcome the flaws and to keep a watch on the action plan.

AUDIT REPORT

(A) Land Use System

IITM Located near Sheikh -ul-Alam Airport Srinagar, geographically lies between 74 Degree 49 minutes East and 34 Degree 51 minutes North. The college has a total of 7 hectares of Land which is transferred from the Department of Revenue Govt. of Jammu & Kashmir. The total build up area of the college is 0.329 hectors which includes Academic buildings, Computer lab, toilets, Classroom, common room, canteen, roads, workshop and also the area under construction for Hostel, Seminar Hall and Parking area. The remaining 6.671 hectors area includes the Playground, Plantation area.

S. No.	Categories	Area (hectares)
1.	Build up Area (Include Roads)	0.0329
2.	Green Cover Area (forest patch, Park, Plantations Area)	6.671
Total Area		7.00

(B) Climatic Parameters: The city is known for its natural Climate. Srinagar has a subtropical climate. Winters are cool, with daytime temperature averaging to 2.5 °C (36.5 °F), and drops below freezing point at night. Moderate to heavy snowfall occurs in winter and the highway connecting Srinagar with the rest of India faces frequent blockades due to icy roads and avalanches. The cold season lasts for 3.0 months, from December 8 to March 7, with an average daily high temperature below 56°F. The coldest month of the year in Srinagar is January, with an average low of 28°F and high of 49°F. Summers are warm with a July daytime average of 24.1 °C (75.4 °F). The average annual rainfall is around 720 millimeters (28 in). Spring is the wettest season while autumn is the driest. The highest temperature reliably recorded is 39.5 °C and the lowest is -9.0 °C . The hot season lasts for 4.4 months, from May 22 to October 2, with an average daily high temperature above 78°F. The hottest month of the year in Srinagar is July, with an average high of 85°F and low of 66°F.

Clouds: In Srinagar, the average percentage of the sky covered by clouds experiences significant seasonal variation over the course of the year. The clearer part of the year in Srinagar begins around May and lasts for 6 to 7 months, ending around ending November. The clearest month of the year in Srinagar is September, during which on average the sky is clear, mostly clear, or partly cloudy 96% of the time. The cloudier part of the year begins around

November 21 and lasts for 5.5 months, ending around May. The cloudiest month of the year in Srinagar is February, during which on average the sky is overcast or mostly cloudy 46% of the time.

Precipitation: A wet day is one with at least 0.04 inches of liquid or liquid-equivalent precipitation. The chance of wet days in Srinagar varies throughout the year. The wetter season lasts 7.2 months, from January 30 to September 6, with a greater than 18% chance of a given day being a wet day. The month with the most wet days in Srinagar is July, with an average of 8.2 days with at least 0.04 inches of precipitation. The drier season lasts 4.8 months, from September 6 to January 30. The month with the fewest wet days in Srinagar is November, with an average of 2.1 days with at least 0.04 inches of precipitation. Among wet days, we distinguish between those that experience rain alone, snow alone, or a mixture of the two. The month with the most days of rain alone in Srinagar is July, with an average of 8.2 days. Based on this categorization, the most common form of precipitation throughout the year is rain alone, with a peak probability of 30% on July 26.

Rainfall: To show variation within the months and not just the monthly totals, we show the rainfall accumulated over a sliding 31-day period centered around each day of the year. Srinagar experiences significant seasonal variation in monthly rainfall. Rain falls throughout the year in Srinagar. The month with the most rain in Srinagar is March, with an average rainfall of 3.8 inches. The month with the least rain in Srinagar is November, with an average rainfall of 0.6 inches.

Snowfall: As with rainfall, we consider the snowfall accumulated over a sliding 31-day period centered around each day of the year. Srinagar experiences some seasonal variation in monthly snowfall. The snowy period of the year lasts for 2.5 months, from December 7 to February 22, with a sliding 31-day snowfall of at least 1.0 inches. The month with the most snow in Srinagar is January, with an average snowfall of 1.4 inches. The snowless period of the year lasts for 9.5 months, from February 22 to December 7. The least snow falls around August 2, with an average total accumulation of 0.0 inches.

Sun: The length of the day in Srinagar varies significantly over the course of the year. In 2022, the shortest day is December 22, with 9 hours, 53 minutes of daylight; the longest day is June 21, with 14 hours, 26 minutes of daylight. The earliest sunrise is at 5:18 AM on June 13, and the latest sunrise is 2 hours, 18 minutes later at 7:37 AM on January 8. The earliest sunset is at 5:21 PM on December 5, and the latest sunset is 2 hours, 25 minutes later at 7:46 PM on June 29.



Moon: The figure below presents a compact representation of key lunar data for 2022. The horizontal axis is the day, the vertical axis is the hour of the day, and the colored areas indicate when the moon is above the horizon. The vertical gray bars (new Moons) and blue bars (full Moons) indicate key Moon phases.

Humidity: We base the humidity comfort level on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night. The perceived humidity level in Srinagar, as measured by the percentage of time in which the humidity comfort level is muggy, oppressive, or miserable, does not vary significantly over the course of the year, staying within 3% of 3% throughout.

Wind: This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average hourly wind speed in Srinagar experiences mild seasonal variation over the course of the year. The windier part of the year lasts for 7.0 months, from January 29 to August 28, with average wind speeds of more than 4.8 miles per hour. The windiest month of the year in Srinagar is July, with an average hourly wind speed of 5.3 miles per hour. The calmer time of year lasts for 5.0 months, from August 28 to January 29. The calmest month of the year in Srinagar is November, with an average hourly wind speed of 4.3 miles per hour. The predominant average hourly wind direction in Srinagar varies throughout the year. The wind is most often from the west for 4.7 months, from May 15 to October 5, with a peak percentage of 77% on August 2. The wind is most often from the east for 7.3 months, from October 5 to May 15, with a peak percentage of 58% on January 1.

(C) Biodiversity status:

The campus of the college is located at sub tropical climatic conditions. In order to promote the green practices and for keeping the environment clean many trees, herbs and shrubs are planted in the campus. Given below is the list of trees, shrubs and herbs that are present in the college campus.



TABLE 1.1 LIST OF TREE/ SHRUBS/HERBS SPECIES FOUND IN THE CAMPUS: -

S.No	Name of plants/Trees	Quantity
1	Albezia julibrissin	15
2	Magnolia Grandiflora	2
3	Magnolia staleta	12
4	Narium Indicum	12
5	Magnolia solangiana	6
6	Ornamental plum	12
7	Ornamental peach	6
8	Livistonia palm	30
9	Salix capria	90
10	Weeping willow	30
11	Evergreen groups	5*6=30



S.No	Shrubs	
1.	<i>Acuba japonica</i>	10
2.	<i>Hydrangea</i>	30
3.	<i>Cammellia</i>	20
4.	<i>Persian lilac</i>	30
5.	<i>Phoenix palm</i>	2
6.	<i>Cycus</i>	2
7.	<i>Rubber plant</i>	2
8.	<i>Ceplora</i>	1
9.	<i>Cotrum petera</i>	2
10.	<i>Aracaria</i>	2
11.	<i>Chymocypress</i>	12
12.	<i>Himalayan cherry</i>	12
13.	<i>Abelia grandiflora</i>	12
14.	<i>Forsythia</i>	32
15.	<i>Hibiscus</i>	16
16.	<i>Day lilly</i>	50
17.	<i>Torch lilly</i>	25
18.	<i>Daffodils</i>	100
19.	<i>Nerine lily</i>	100
20.	<i>Belladonalilly</i>	50
21.	<i>Bergenia</i>	50



(A) Pollution:

i. Sources of air pollution: It is observed that the only sources of pollution in college are use of diesel/petrol engines, air conditioners, power generator, and other bio degradable waste from canteen. There are three (03) office vehicles (cars), ten (10) personal cars, nine (09) personal two wheelers and six (06) cycles are being used by the employees of the organization. There are also other people who are using environment friendly vehicle i.e cycle but the percentage is very low. There is very less chances of air pollution from outside as there are no commercial as well as the industrial activities are running near the camp from that us.



ii. Sources of noise pollution: There is no industrial as well as the sound generating activities near the college campus and it was revealed from that due to limited number of vehicles the chances of noise pollution seems to be quite low .

(B) Water resource and management: The college has its own tube well for meeting its water requirements such as watering plants ,use in washrooms, canteen etc .in addition college has an underground tank of 25000 L from which water is lifted using electric motor to tanks placed at roof top of the building .Since the college does not have staff quarters at present in premises, thus no house hold domestic water demand ,water consumed in college is for drinking ,canteen ,sanitary and gardening purposes .There are three electric water purifiers and 5 manual water purifiers for meeting drinking water demand of the employees .There are total six (06) water tanks of 1000L capacity which are filled up daily.



GPS Map Camera

Srinagar, ,
Laloo,sheshgari bagh, 2QXF+4H9, Hyderpora, Srinagar, 190014
Lat 34.047772°
Long 74.774927°
18/12/23 02:13 PM GMT +05:30



Google

(C) Waste Disposal and Management

Both biodegradable as well as non-biodegradable wastes are generated from the both departments/sections of the college.

The principal waste includes paper, grass, electronic wastes, canteen waste and other solid wastes.



Fig: compost pit

A number of initiatives to manage the waste generated through Classroom activities and student's activities have been taken. The use of plastic wastes is completely or strictly banned in the college campus. In addition following provisions have been made:

i. **Biodegradable:** Use of color coded dustbins (green for biodegradable and blue for non- biodegradable) at various points in the campus has been made for segregation of waste. Thereafter, the biodegradable waste produced from the departments, sports ground or other areas is put into compost pits for making compost to be use in manure for garden plantsduring planting season.

ii. **Non-Biodegradable:** There is very low quantity of non-degradable waste in the campus asthe college does not have staff quarters at present in the college premises, therefore, no household domestic waste is generated. However, rest of the non-degradable waste

generated from places/department/sections of the college is collected in red dustbin and sent for the disposal through waste collection vehicle of Srinagar Municipal Corporation (SMC).

iii. E-Waste: Iqbal Institute of Technology & Management has optimized its inventory of around 40 old computers through reassembling, modification and up gradation by the University's own team of IT Administrator, faculty members and students of Computer Science. This has been a critical endeavor towards E-waste management ensuring that no discarded computers or printers are lying idle in the college premises. Around 10 of these computers have been donated to neighboring New Age School where a lab has been set up for small children under community development initiative.



(D) Environmental Awareness

CELEBRATION OF CHINAR DAY
15 MARCH 2023
WELCOME TO CHIEF GUEST
SYED FAKHRUDIN HAMID (IAS) DEPT. COMMISSIONER BUDGAM

ORGANISED BY
IQBAL INSTITUTE OF TECHNOLOGY AND MANAGEMENT

IN COLLABORATION WITH
PIR PANJAL FOREST DIVISION BUDGAM / FPF K-03 BUDGAM
IQBAL INSTITUTE OF TECHNOLOGY AND MANAGEMENT
LALOO SHESHGARI BAGH HYDERPORA



Fig: PLANTATION OF CHINAR TREES

The college staff is aware of the various environmental issues and the various green measures to be adopted in office as well as in their houses. College conducts plantation drives in the campus during Environment Day and during other important events in the college . Further, university has also adopted nearby villages for environmental awareness activities, health camps and other community programs being conducted through their participation.

(E) Mitigation and Management Practices

At present following practices for environmental protection are also being adopted by the university:

i. Maintenance of Lush Green Campus: College has ten hectares of land which was transferred to it from government for the purpose of creating infrastructure required for the development of various Offices/ Departments of the college. Further felling of trees for development of various infrastructures will be done with least disturbance following government rules.



Plantation Drives:-

Plantation drives are regular activities in the campus, and usually in all important occasions, plantation activity is taken up. University has maintained a garden in which different ornamental plants have been raised.

Swachh Bharat Mission: Swachh Bharat mission or clean India mission is a country wide campaign initiated by the Government of India in 2014 to eliminate open defecation and improve solid waste management. Cleanliness and hygiene are not only for our personal belongings or our own homes, we need to make sure to keep our surroundings clean where we go. This is what we follow in our college. We try to eliminate and eradicate the practice of open defecation and ensure clean environment.



Swachh Bharat Abhiyan on 26/07/2022

Organic Composting:

The activity of materials are making organic compost has been initiated in the campus where all the biodegradable waste is filled up in the compost pit. In the course of time, organic compost is prepared. This organic compost is utilized as manure in flowerbeds and plantations.

Energy Conservation Efforts

The College is using star rated Electrical & Electronics equipment which saves energy. LED Bulbs, Tube-light and star Rated Air Conditioners. College has always been effortful in making use of renewable energy resources. The average electricity Consumption of the college per month is approximately 1200 to 1800 units. For this purpose, college has sanctioned power connection of 20 Kw from JKPDD and college is already in phase I of installation of Solar panel. It produces approximately 60 to 100 units of electricity per day. This is the step forward for energy conservation and will definitely reduce the electricity consumption of the Campus and save the money for college.

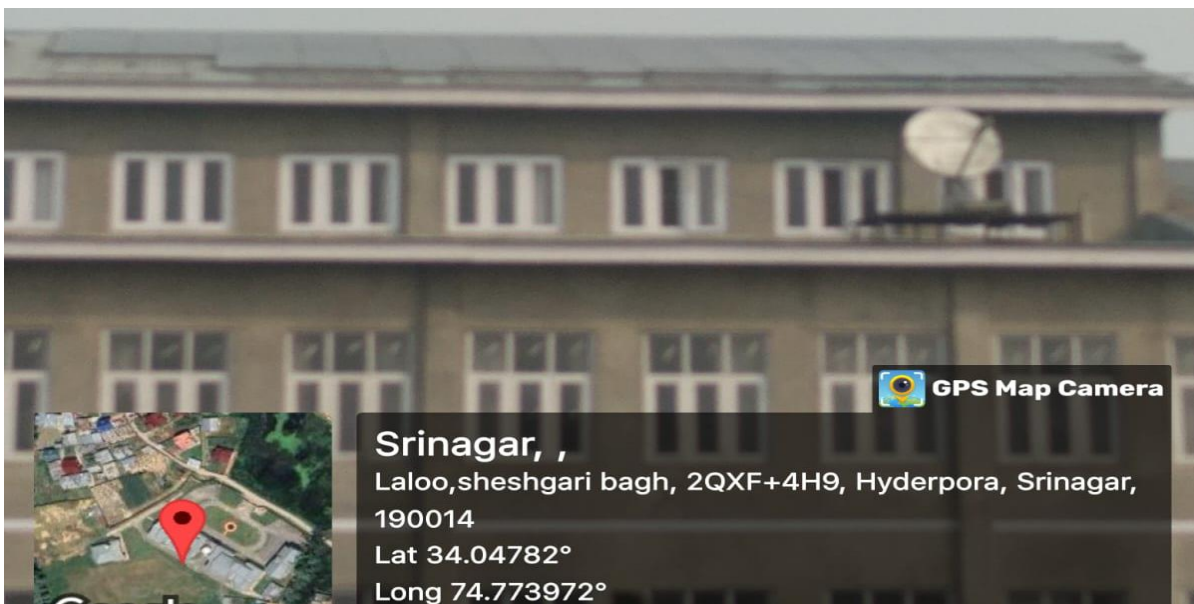


Fig: Solar energy generation

Water conservation measures through Rain water harvesting:

Globally our water resources are depleting each year in order to reduce dependency of water from tube well and also to recharge underground water resources ,the college has adopted one of the simplest and best measures for conserving water .The college has kept a water harvesting tank besides the administrative block in the campus. It is a simple strategy by which rainfall is stored for future usage .The process involves collection and storage of rainwater with artificially designed systems, that runs off natural or manmade catchment areas. The collected rainwater from surfaces on which rain falls may be filtered, stored and utilized in different ways or directly used for recharge purposes. The use of rainwater harvesting system provides excellent merits. It provides the most sustainable and efficient means of water management.



3. Recommendations

A green audit of any academic institution reveals, ways by which institute can reduce energy consumption, water use and reduction in emission of carbon dioxide in the environment. It is a process to look into and ask ourselves whether we are also contributing to the degradation of the environment and if so, in what manner and how we can minimize this contribution and bring down to zero and preserve our environment for future generation. This process of green audit enables us to assess our lifestyle, action and assess its impact on the environment. Green auditing is the process of identifying and determining whether institutional practices are eco-friendly and sustainable. Traditionally, we are good and efficient users of natural resources. But over the period of time excess use of resources, viz., energy, water, chemicals are become habitual for everyone especially, in common areas. Now, it is necessary to check whether our activities are consuming more than required resources? Whether we are handling waste carefully? Green audit regulates all such practices and gives an efficient way of natural resource utilization. In the era of climate change and resource depletion it is necessary to verify the processes and convert it in to green and clean one.

- 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.
- Focus to assess the consumption of energy, electricity, water as well as disposal of liquid waste, solid waste, hazardous waste, e-waste and an inventory of trees in the campus is also prepared to check how much CO₂ is sequestered and O₂ is released.
- Various awareness programs will be helpful to motivate all the staff members for optimized sustainable use of available resources.
- The long term goal of the environmental audit program is to collect baseline data of environmental parameters and resolve environmental issue.
- To prepare an Environmental Statement Report on green practices followed by different departments, support services and administration.
- If possible an environmental audit report must be published annually by the college.

4. References

NEP (2020). National Environment Policy, 2020. Ministry of Environment, Forest and Climate Change, Govt.

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