

## GREEN AUDIT REPORT



### GOVERNMENT COLLEGE, DERA BASSI, DISTT. SAS NAGAR, MOHALI, PUNJAB

AUDIT CONDUCTED ON: 22.06.2023

CONDUCTED BY:

**R.K. ELECTRICALS & ENERGY AUDIT SERVICES**

Er. R. K. Sharma MIE, FIV  
BEE's Energy Auditor (EA-10080) MoP, GoI  
HP Govt. Emp Energy Auditor, DoE, Shimla  
Accredited Professional for Env & Green Audit (IGBC)  
Govt. Regd. Valuer & Chartered Engineer  
M: 09501332233  
E-Mail: [er.rakesh50@ymail.com](mailto:er.rakesh50@ymail.com)

2023-24



## CERTIFICATE

This is to certify that “**R.K. Electricals & Energy Audit Services**” had conducted a detailed **Green Audit** of “**Government College, Dera Bassi**” campus during the **2023-2024** academic year and they had submitted all required data and credentials for evaluation. Based on the report submitted, the College's actions and measures have been verified and found to be commendable. The efforts made by staff and students in the areas of environment and sustainability are much appreciated and encouraged.

**ER. R.K, Sharma MIE, FIV**  
**Green Building Accredited Professional**  
**For R.K. Electricals and Energy Audit Services**

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## 1. ACKNOWLEDGEMENTS

“R.K. ELECTRICALS & ENERGY AUDIT SERVICES” expresses sincere thanks to the

- |                       |                     |
|-----------------------|---------------------|
| 1. Ms. Kamna Gupta    | Principal           |
| 2. Ms. Rajbir Dhillon | Nodal Officer       |
| 3. Ms. Bhupinder Kaur | Librarian           |
| 4. Ms. Navjot Kaur    | Assistant Professor |

for giving us an opportunity to conduct the Green Audit of the building Government College Dera Bassi.

The Study team members of **R.K. ELECTRICALS & ENERGY AUDIT SERVICES** sincerely thank the support staff members of Government College Dera Bassi who have rendered their all-possible co-operation and assistance during the entire period of assignment.

For R.K. Electricals & Energy Audit Services

## 2. EXECUTIVE SUMMARY

**R.K. ELECTRICALS & ENERGY AUDIT SERVICES** was entrusted the Green audit of Government College, Dera Bassi. The management of the college is conscious with regard to improve sustainability and complementary to its Green Policy. The purpose of this audit was to ensure that the practices followed in the campus are in accordance with the green policy adopted by the institution, it works on several facets of Green Campus including water conservation, electricity conservation, tree plantation, waste management, paperless work, mapping of biodiversity Keeping in view these issues in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the departments are in compliance with the applicable regulations, policies and standards.

The College aims to minimize the environmental impact of its operations and move towards restoring environmental integrity, promote social justice, equity and diversity contribute to human health and maintain its financial viability.

As part of its commitment to sustainability, the college has developed a Sustainability Policy and Sustainability Strategy and is now developing a series of Sustainability Action Plans on energy and greenhouse, water, transport and waste to support implementation of the Policy and Strategy.

This document deals with Green Audit of Government College, Dera Bassi, Distt SAS Nagar, Mohali.for the year 2023-2024

## 2.1. The brief description of Premises

<b>Project Title:</b> Green Audit of Government College, Dera Bassi, Distt SAS Nagar, Mohali	
<b>Client:</b> Principal, Government College, Dera Bassi,	
<b>Contact Person:</b> Associate Professor Rajbir Dhillon	
<b>Date of Audit:</b> 22.06.2023	
<b>Source:</b> Data collection from the staff & Physical verification/Inspection	
<b>Date of report:</b> 03.07.2023, Report Number: RKS/GA-26/2023	
<b>Work Carried out by:(Team Composition)</b>	Er. R.K. Sharma (BEE's Energy Auditor) EA-10080, Mrs Savita Sharma MSc (Ecology Environment) Er. Varun Sharma B. Tech (EE), MBA, PGD (Indl Safety) Er. Vibhor Aggarwal (BEE C/Energy Manager)

## 3. INTRODUCTION

### Back ground of Govt College, Dera Bassi

Surrounded by green forest & natural environment at a distance of 700 meters off Chandigarh-Ambala National Highway Government College, Dera Bassi started its Journey on 15th of January, 1975 in the Primary School building of Dera Bassi Town, due to the sincere efforts of the then local MLA and Finance Minister Sh. Hans Raj Sharma with strength of 126 Students. At present, the College has about 1563 students and the number is increasing every year. The College was shifted to the present building on 7th February 1984. At present the College is running Arts, Commerce and Science (Non-Medical) streams. The College at present runs self financing courses under HEIS including B. Com. Honor's and B.C.A.

The College especially encourages and guides the students to participate in Cultural, Fine-Arts, Music, Sports, N.S.S. and Literary fields. Being a Co-Educational College, a civilized and courteous behavior is expected from students.

The college is affiliated to Punjabi University, Patiala. It has a spacious and beautiful campus with manicured lawns, fully equipped modern laboratories, a highly rated well-stocked Library with wide collection of books, periodicals, journals and magazines. The college has sprawling playground, a gym and a Canteen. The computer labs consist of latest version of computers with broadband internet facility, LAN and required software. The college has highly qualified, experienced and devoted faculty. Students' full participation and involvement is encouraged in curricular and extra-curricular activities like Youth Welfare, NSS and Red Cross and cultural activities. Efforts are also made to inculcate various healthy practices and values among the students. The Administrative Block is Wi-Fi enabled.

### 3.1 Vision

The college aims to internalize among the students a strong commitment to human values and social justice and sensitize them to evolve a scientific temper and spirit, as reflected in the Motto of the college - Deh Shiva Var Mohe Shubh Karman te Kabhu na taro- Nishche kar apni Jeet karo ("Grant me this Boon, O God, May I never refrain, from righteous acts, may I fight without fear, all foes in life's battle with confident courage, claiming the Victory")

#### 3.1.1 Mission

The mission is to create a progressive model of lifelong learning, teaching and evaluation which is in sync with the changing needs of industry, commerce, public & private sector. The mission of the college is to create a progressive and creative cadre of youth, able minded, dynamic and epitome of ethical values; being in tune with the evolving demands of society and sensitive to regional, national and international aspirations.



### 3.1.2 Objectives

The objectives of the institution are:

- Providing Job-oriented and Professional courses besides easy access to quality education in the traditional courses in Science, Humanities, Commerce and Computer to meet the long standing demand and expectations of the predominantly rural and backward population of the area.
- Widening the scope of education at both vertical and horizontal levels.
- Providing educational empowerment to female population, especially from rural areas and from economically and socially weaker sections.
- Internalizing a strong commitment to human values and social justice among the youth and sensitizing them to evolve a scientific temper and independence of mind and spirit as reflected in the motto of the college.
- To mould students into rational thinkers, competent workers and socially aware citizens.
- To sensitize the students towards inclusive social concerns, human rights and environmental issues.
- The vision, mission and objectives of the institution are communicated to the students, teachers, staff and other stakeholders through college prospectus, notices and with formal & informal interactions during Orientation Programmes, P.T.A meetings, HEIS Board of Governors' meetings & Staff meetings.

## 4. OBJECTIVES OF THE STUDY

### 4.1 Green Audit

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyze environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO<sub>2</sub> from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.



**About National Assessment and Accreditation Council (NAAC):** is a government organisation in India that assesses and accredits Higher Education Institutions (HEIs). It is an autonomous body funded by the University Grants Commission and headquartered in Bangalore

(NAAC) conducts assessment and accreditation of Higher Educational Institutions (HEI) such as colleges, universities or other recognised institutions to derive an understanding of the 'Quality Status' of the institution.

In a nutshell, improving quality is the immediate goal that NAAC wants institutions to think and act on.

**Advisory Note:** NAAC issued advisory note on 26<sup>th</sup> May 2022 vide their letter No.14-29/2022 that it should be ensured that ISO certificates are from certifying agencies accredited either by NABCB or any member AB of IAF. The certificate should carry the logo of the AB concerned which is attached as annexure at page 57

## 5. METHODOLOGY

Methodology adopted for achieving the desired objectives viz: physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. The study covered the following area to summarize the present status of environment management in the campus:

- I. Geographical Metrological parameters
- II. Water consumption and management
- III. Electricity consumption and management
- IV. Air quality assessment and management
- V. Sound pollution monitoring
- VI. Waste management
- VII. Biodiversity status of the campus

## 6. GEOGRAPHICAL AND METROLOGICAL PARAMETERS



**Lush Green Campus of Govt College Dera Bassi Campus as seen in satellite image (Source – Google Earth)**

Dera Bassi is a satellite city of Chandigarh and a municipal council in Mohali district in the state of Punjab, India. Dera Bassi is located on the Chandigarh – Delhi National Highway, 8 km from Chandigarh. It is located within 20 km from Chandigarh and Mohali

## 6.1. Weather Bins

This area has a humid subtropical climate characterized by a seasonal rhythm: hot summers, cold winters, unreliable rainfall and great variation in temperature. Dera Bassi weather by month weather averages:

During three months of monsoon season from July to September, the moist air of oceanic origin penetrates into the district and causes high humidity, cloudiness and good monsoon rainfall. The period from October to November constitutes post monsoon season. The cold weather season prevails from December to February followed by the hot weather season or Pre-monsoon season which ends up to the last week of June.

### 6.1.2. Rain fall

The normal annual rainfall of Dera Bassi, Mohali District is about 750 mm in 65 days which is unevenly distributed over the district. The southwest monsoon sets in last week of June and withdrawn towards end of September and contributes about 82% of annual rainfall. July and August are the rainiest months. Rest 18% of the annual rainfall occurs during none of the year in the form of thunder storm and western disturbances. Rainfall in the district increases from southwest to northeast. Therefore, climatically, the district has a very hot in summer and frequently scorching heat is in full swing. The climate of Mohali district can be classified as tropical steppee, semi arid and hot which is mainly dry except in rainy months and characterised by intensely hot summer and cold winter. During three months of monsoon season from July to September, the moist air of oceanic origin penetrates into the district and causes high humidity, cloudiness and good monsoon

## 7. WATER CONSUMPTION AND MANAGEMENT

### 7.1. Water extraction and Storage

The Campus has made the provision for storage the water for the facility of the staff and students in the college. The college has several overhead water storage tanks placed on college buildings which are filled from overhead water tank operated by local Municipal Corporation.

### 7.2. Drinking water and quality

Reverse Osmosis Plant - Reverse osmosis (RO) is a membrane separation process, driven by a pressure gradient, in which the membrane separates the solvent (generally water) from other components of a solution. The membrane configuration is usually cross-flow. The campus has provided purified R.O. drinking water to all the students and staff in the campus by installing RO filters with all water coolers in campus.



← R.O Water filter  
installed along with Water  
Cooler for drinking water  
in GC Dera Bassi Campus





**Measured pH value and TDS Value of RO filtered drinking water**

Auditors checked the quality of the drinking water after it is treated from RO Plant by taking a sample and found the quality water which is as under:

Sr. No.	Particulars of checked item	Value	Remarks
1	Sample of drinking water for testing PH Value	7.9	Good
2	Sample of drinking water for testing TDS (total dissolved solids) Value	284 ppm	Fair

**Findings and comments**

1. The PH value of safe drinking water lies between 6.5 & 8.5

Tested the sample of drinking water and found to be 7.9 which is Neutral PH value for safe drinking water

2. The TDS value of safe drinking water is less than 300 ppm

The TDS value of tested sample found to be 284 which is good and safe for drinking water

### 7.3. Water Conservation

**GC, Dera Bassi** has developed for the various water-use categories in the office buildings and for monitoring and operational procedures. They are grouped according to indoor water use, outdoor water use, and monitoring and operational procedures.

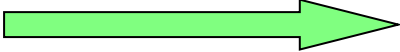
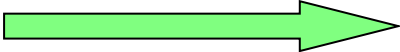

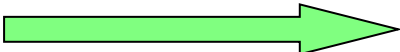


### 7.4. Use of Efficient Water Urinals/Fixtures

- **Low water use urinals:** **GC, Dera Bassi** is using standard systems urinals. Water is applied by pressing the water taps and is disconnected as and when hand pressure is removed thus saving water wastage.
- **Smart flush systems:** Now a days smart flush system using 0.8 litres per flush have also been launched. It is advised to **GC, Dera Bassi** management to install smart sensor-based taps to further avoid water wastage in urinals.
- **Waterless urinals:** There are various technologies available for waterless urinals. In oil barrier technology, the urinals operate using an oil wall between the urine and the atmosphere, preventing odour from escaping.
- **In another technology,** the barrier has been replaced by a seal with a collapsible silicone tube that closes after the fluid has passed through it, to prevent gases from flowing into room.
- **Other system** uses biological blocks which include microbial spores and

Surfactants which can be placed into any urinal, thus eliminating water use

### Other Areas which need attention for water conservation include

-  **Identifying and Fixing Leaks**
-  **Review Leakages periodically & take corrective measures**
-  **Re-use Water**
-  **Re Cycle Water**

#### 7.5. Identifying and Fixing Leaks

The hidden water leaks can cause loss of considerable water and energy without anyone being aware of it. A small leak can amount to large volumes of water loss. Leaks become larger with time, and they can lead to other equipment failure. Fix that leaky pipe, toilet, faucet, or roof top tank to save considerable amount of money and water

#### 7.6. Review Leakages periodically and take corrective measures

Regular maintenance of the toilets should be carried out. Test for leaks and make necessary repairs promptly. Keep the toilet in working order by periodically inspecting and replacing flappers and other defective parts.

#### 7.7. Reuse & Recycle

The waste water is discharged into MC pipelines. However it is advised to set up small sewage treatment plant which can filter and re-use spent water from washrooms and use for landscape irrigation etc.

#### 7.8. Rain Water Harvesting and conservation

One of medium of harvesting rainwater is providing the incoming rainwater directly to the ground. This will increase the ground water level of the location and also helps in achieving the ground water at same or at less level than the existing level,

**7.9. Rain water Harvesting:** GC, Dera Bassi is advised to construct near main building block, rain water from college buildings including low land area and water from other blocks, roofs and through roads can be effectively collected in the underground rain water recharge wells and can be utilized for irrigation, in urinals or for storage tanks of fire fighting systems.





**An Example of Rain Water harvesting underground well which may be constructed in GC Dera Bassi Campus**

### **7.10. Rain fall**

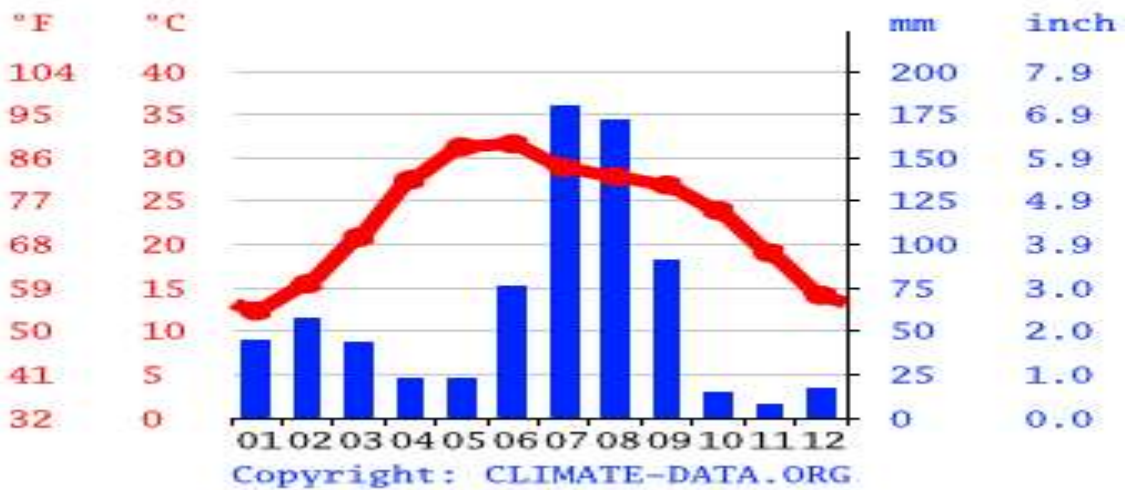
The average annual temperature in Dera Bassi is 23.2 °C | 73.7 °F. The annual rainfall is 748 mm | 29.4 inch.

July and August are the rainiest months. Rest 18% of the annual rainfall occurs during non of the year in the form of thunder storm and western disturbances. Rainfall in the district increases from southwest to northeast. It is the nearest to the Tar Desert of Rajasthan and also far away from the Major rivers lines that run through the state. Therefore, climatically, the district has a very hot in summer and frequently scorching heat is in full swing. The climate of Dera Bassi (Mohali) district can be classified as tropical steppe, semi arid and hot which is mainly dry except in rainy months and characterised by intensely hot summer and cold winter.

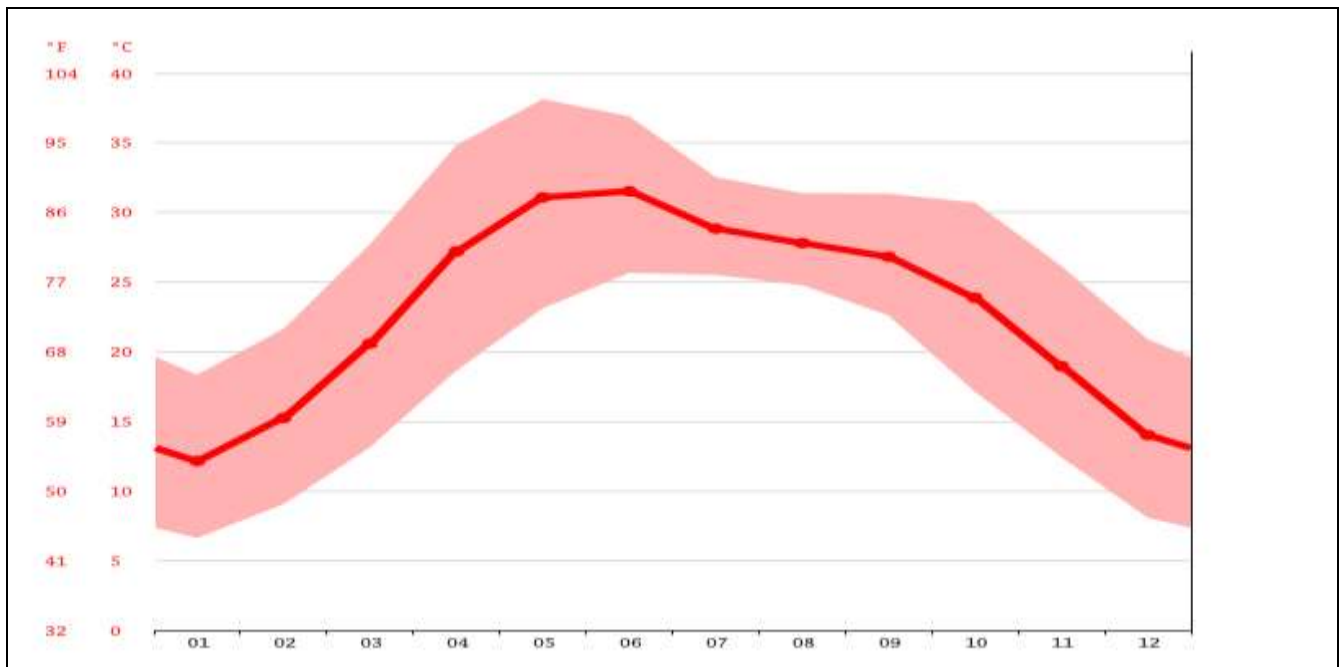
During three months of monsoon season from July to September, the moist air of oceanic origin penetrates into the district and causes high humidity, cloudiness and good monsoon rainfall. The period from October to November constitutes post monsoon season. The cold weather season prevails from December to February followed by the hot weather season or Pre-monsoon season which ends up to the last week of June.

## CLIMATE GRAPH // WEATHER BY MONTH DERA BASSI AREA

### Dera Bassi Climate (India)



In Dera Bassi, the climate is warm and temperate. The summers here have a good deal of rainfall, while the winters have very little. The Köppen-Geiger climate classification is Cwa. The average annual temperature in Dera Bassi is 23.3 °C | 73.9 °F. In a year, the rainfall is 748 mm | 29.4 inch.



## AVERAGE TEMPERATURE DERA BASSI AREA

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	12.2 °C (53.9) °F	15.3 °C (59.5) °F	20.6 °C (69.1) °F	27.2 °C (81) °F	31.1 °C (88) °F	31.5 °C (88.8) °F	28.8 °C (83.9) °F	27.8 °C (82.1) °F	26.8 °C (80.3) °F	23.9 °C (75) °F	19 °C (66.1) °F	14 °C (57.2) °F
Min. Temperature °C (°F)	6.6 °C (43.9) °F	9.1 °C (48.3) °F	13.1 °C (55.7) °F	18.7 °C (65.6) °F	23.1 °C (73.6) °F	25.7 °C (78.2) °F	25.5 °C (77.9) °F	24.8 °C (76.6) °F	22.6 °C (72.7) °F	17.1 °C (62.8) °F	12.4 °C (54.4) °F	8.1 °C (46.6) °F
Max. Temperature °C (°F)	18.4 °C (65) °F	21.7 °C (71) °F	27.7 °C (81.9) °F	34.9 °C (94.7) °F	38.2 °C (100.7) °F	36.9 °C (98.5) °F	32.6 °C (90.6) °F	31.4 °C (88.5) °F	31.4 °C (88.5) °F	30.7 °C (87.3) °F	26.2 °C (79.1) °F	20.9 °C (69.6) °F
Precipitation / Rainfall mm (in)	45 (1.8)	57 (2.2)	43 (1.7)	23 (0.9)	23 (0.9)	76 (3)	180 (7.1)	172 (6.8)	91 (3.6)	14 (0.6)	7 (0.3)	17 (0.7)
Humidity(%)	73%	65%	50%	30%	30%	46%	74%	80%	73%	54%	55%	66%
Rainy days (d)	3	4	4	3	4	7	15	14	7	1	1	1
avg. Sun hours (hours)	8.1	9.4	10.6	11.6	12.2	11.8	10.3	9.8	9.8	10.1	9.5	8.6

### Rainfall data of Dera Bassi area for Year 2022-23

Thus it is recommended to provide rain water harvesting and recharging system i.e. Installation of more recharge wells / rain water harvesting pits for recharging ground water tables.

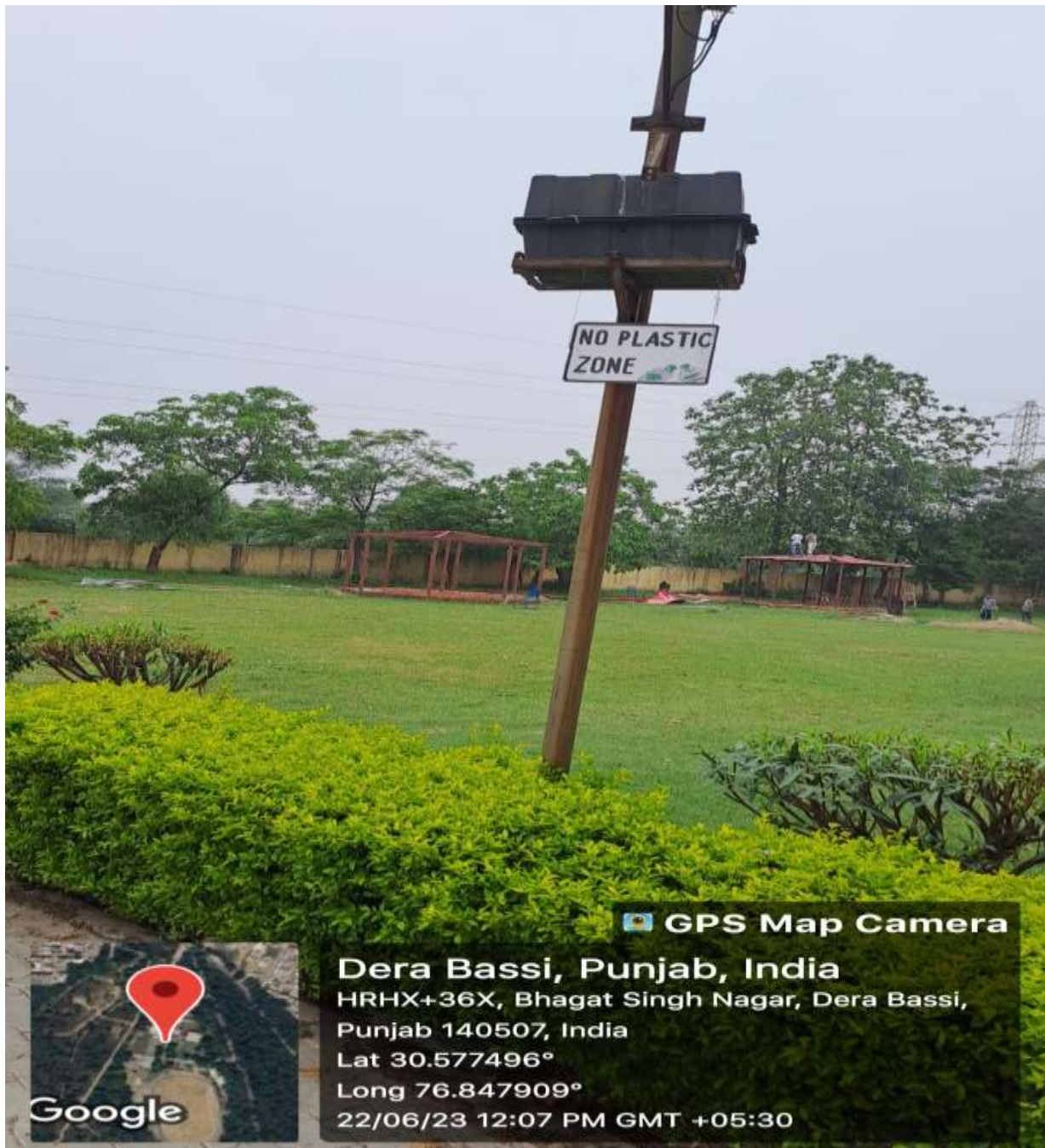
There would be no direct monetary benefits, but there would be some improvement in the water table. The precipitation varies 173 mm | 7 inches between the driest month and the wettest month. The average temperatures vary during the year by 19.4 °C | 34.9 °F. The month with the highest relative humidity is August (79.64 %). The month with the lowest relative humidity is April (29.91 %) The month with the highest number of rainy days is July (19.47 days). The month with the lowest number of rainy days is November (1.03 days) Dera Bassi are in the northern hemisphere. Summer starts here at the end of June and ends in September. There are the months of summer: June, July, August, and September.

### Findings and comments

1. Use low water /smart flush system or water less urinals
2. Water Leakage was found in some washrooms, which needs to be corrected and routine inspection is advised.
3. For drinking purpose, RO systems have been installed at various places along with water coolers. In RO systems, while purifying approximately 1 litre of raw water, about



- 3 Liters of water is wasted. The waste water can be utilized in washrooms or landscape / green area irrigation systems, thereby reducing water intake.
4. Provide rain water harvesting system in the campus
  5. Educate Users: The conservation of water reduces water waste and energy costs too, on both operation and production. Educated consumers will be better able to identify problems and think innovatively about ways to conserve or reuse water within the facility. Not only will the work environment benefit, but these tools can be taken back to the home, where individuals and families can use these practices to play an even larger role in the preservation of rapidly dwindling fresh water resources.



## 8. ELECTRICITY CONSUMPTION AND MANAGEMENT

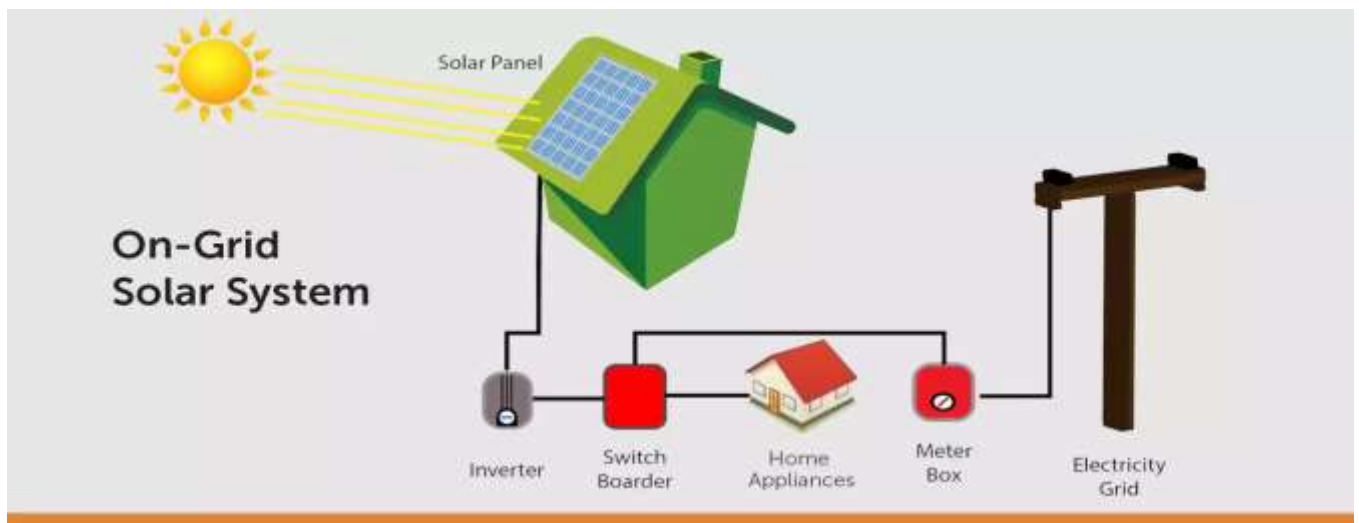
**Government College**, draws power from PSPCL through LT line. It is supported by a Solar Power Plant of capacity 25 KWP.

This Solar Power Plant provides clean green energy to college during working hours. When there is surplus supply from this setup, the power generated by Solar panels is supplied to Utility grid thru bi-directional meter installed.

### 8.1. Detail of electricity billing

MONTH 2022-23	Utility Energy Consumption-KWH	Solar Energy Consumption -KWH	Total Consumption-KWH
April	1100	3941	5041
May	2300	2824	5124
June	4740	3469	8209
July	2340	2652	4992
Aug	2280	3178	5458
Sept	4800	5235	10035
Oct	480	1712	2192
Nov	260	2799	3059
Dec	1260	1012	2272
Jan	760	1995	2755
Feb	280	2346	2626
March	140	2971	3111
<b>TOTAL</b>	<b>20740</b>		<b>54874</b>

Government College Dera Bassi has installed On Grid Solar Power Plant of 25 KWP







Grid connected Solar PV Plant installed in GC Dera Bassi Campus



Solar Street Lights and On Grid Solar Power Plant installed in GC Dera Bassi Campus

**8.2. LED lights:** About 50 no. conventional lighting has been replaced with LED lighting thus lowering the electricity consumption in the campus

Also, Smart Flood Lights using LED have been installed in campus area. These lights are automatically switched on and off as per requirement of lighting conditions during day and night time.



### LED Flood Lights in GC Dera Bassi Campus

### 8.3. LUX MEASUREMENT

A high-quality **DIGITAL LUX METER** was used to measure the illumination levels at various locations of GOVERNMENT College and the recommended level of lightning in these areas is given in the table:

**8.4. The recommended light level as per standard is shown below:**

Location	Recommended Lux
Normal work station space, open or closed office	500
Conference Rooms	300
Training Rooms	500
Internal Corridors	200
Auditorium	150-200
Entrance Lobbies, Atria`	200
Stairwells	200
Toilets	200
Dining Areas	150-200

### Recommended Standard Light level Details



### 8.5. Study finding of Lux level

The building authorities provided the details of luminaries installed within their Building premises. The auditors surveyed area and measured Lux level which is as under:

Sr. No	LOCATION	Measured Lux	REMARKS
1	RUSA office	262	Satisfactory
2	Staff room conference room	155	Unsatisfactory
3	Barsar office	296	Satisfactory
4	Office room	237	Satisfactory
5	Physics department	266	Satisfactory
6	Chemistry lab	275	Satisfactory
7	Faculty room	213	Satisfactory
8	Library	309	Satisfactory
9	Computer lab 1	300	Satisfactory
10	Computer lab 2	300	Satisfactory

### Assessment of the Lighting with the Lux meter

#### Findings, Conclusion and outcome of the current Energy Audit Report (2023-24)

**i) Campus lighting system:** With the retrofitting of remaining conventional lighting with the LED lighting and LED fixtures, proposed average energy savable is 24 % from total savings

**ii) Study of Fan system in the institute:** With the retrofitting of some conventional ceiling fans with the energy efficient BLDC ceiling fans, proposed average energy savable is 52 % from total savings.

**iii) Air-conditioning system in the college:** With the retrofitting of remaining conventional air conditioners with BEE 5 star rated energy efficient air conditioners, proposed average energy savable is 10 %

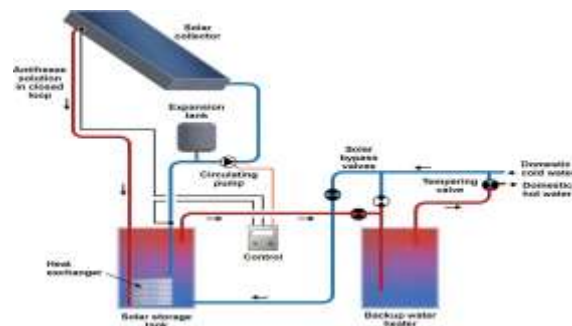
**iv) Renewable Energy Application (Solar power plant):** Solar energy is one of the most widely used renewable source of energy one can use renewable energy technologies to convert solar energy in to electricity, it is very reliable source of energy and can significantly reduce the electricity bills, as such, institute's management has

installed some solar street lights and 25 KWp roof top grid interactive Solar plant and it has generated 30444 units of electricity during the year 2022-23 which is excellent savings thus, reducing considerable carbon emissions

**v) Switching off lights, when not required:** Some postures & stickers installed at all important locations so that staff and students remain conscious about it.

**vi) Awareness campaigns:** Awareness campaigns made in the campus for energy conservations covering lighting and renewable source of energy in the campus like solar parking/street lighting.

This shows that **the authorities of Government College, Dera Bassi** is very conscious about energy conservation and has already started replacing balance conventional lighting with LED lighting and some street lights with solar street lights and installed a mini solar power plant to facilitate and promote energy efficiency in the campus. As per measurement of lighting in the rooms of campus by the auditors with the high quality Lux meter ,the light level found good and comfortable for health of the occupants. .



Solar water heaters are proposed to be installed in canteen area to harness more Solar energy, the hot water from these solar water heaters can be used for cooking and washing purposes

## 9. AIR QUALITY ASSESMENT

### 9.1. The Air Quality Index

The **Air Quality Index (AQI)** is an index for reporting daily air quality. It tells us how clean or polluted the air is, and what associated health effects might be a concern. The AQI focuses on health effects which may experience within a few hours or days after breathing polluted air.

### 9.2. IN DOOR ENVIORONMENTAL QUALITY

Health and comfortable life is the top most priority of every building user. Corresponding to health and wellbeing, the quality of a built environment for its occupant inside a building is referred to as in door environmental quality. Indoor environmental quality involves noise disturbance, occupant density, in door lighting, day lighting, ventilation, room temperature, cleanliness and indoor humidity. All these factors add up and form indoor environmental quality.

The AQI is divided into three categories. **CO2, TVOC & HCHO** Each category has health concern. This is shown below in the table.

AQI Basics for Pollution			
CO2	TVOC	HCHO	Description of Air Quality
<b>&lt; 600 ppm</b>	<b>&lt; .6mg/m3</b>	<b>&lt; .08mg/m3</b>	Air quality is excellent, and air pollution poses no risk.
<b>&gt;600 &lt; 1000 ppm</b>	<b>&gt;0.6 &lt; 1.6mg/m3</b>	<b>&gt;0.08 &lt; 0.12mg/m3</b>	Air quality is good. and air pollution poses no risk..
<b>&gt;1000 ppm</b>	<b>&gt;1.6 mg/m3</b>	<b>&gt;0.12 mg/m3</b>	Air quality is good. Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.

9.3. Auditors measured some Air Quality Parameters at different locations in the buildings

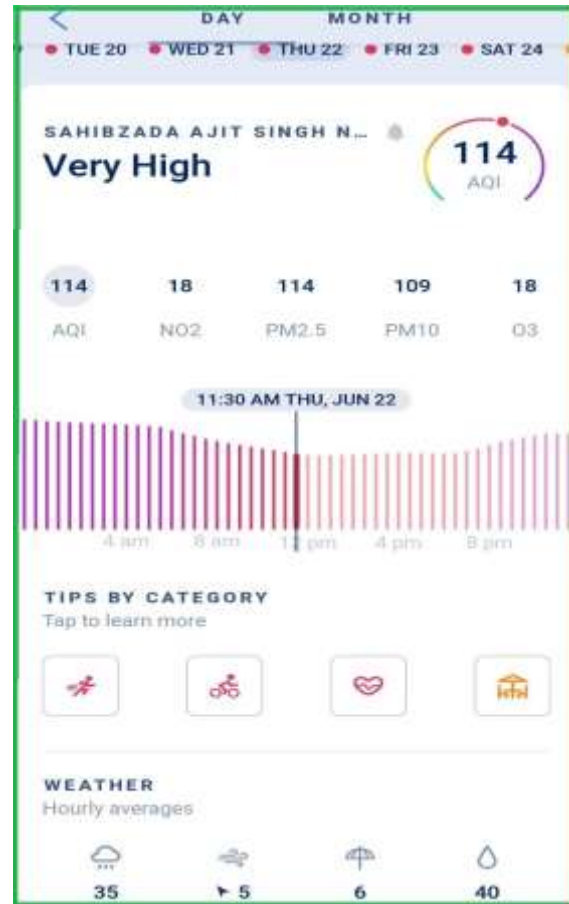
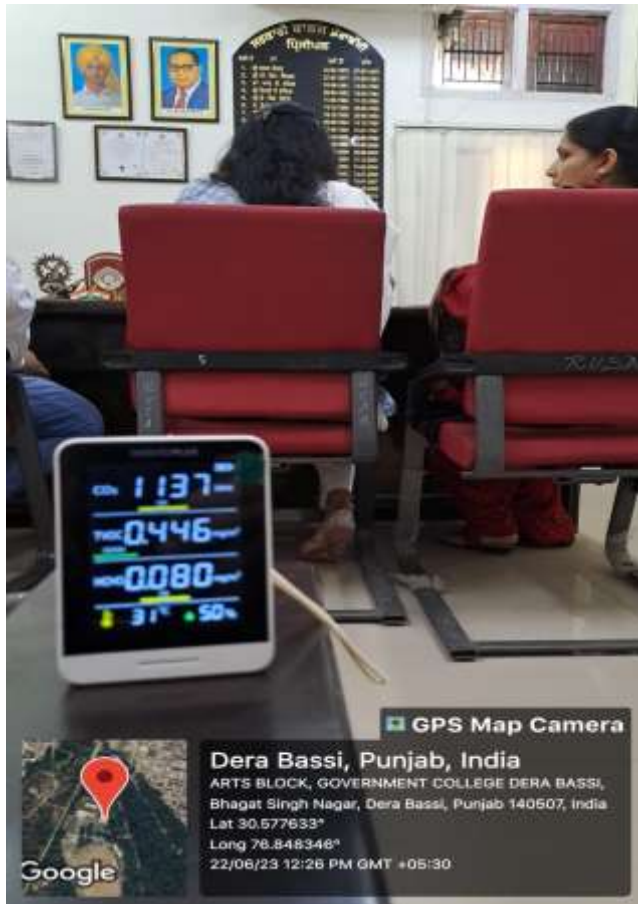
Sr No.	Location	CO2	TVOC	HCHO	Temperature in degree centigrade	Relative Humidity in %	PM 2.5 $\mu\text{g}/\text{m}^3$	PM 10 $\mu\text{g}/\text{m}^3$
1	Main building (indoor)	1137	0.446	0.080	31	50	114	109
2	Park near Main building	1145	0.446	0.080	32	50	114	108

**MEASUREMENT OF AIR QUALITY PARAMETERS INSIDE GOVERNMENT COLLEGE CAMPUS**

Index	Nitrogen Dioxide, Hourly mean ( $\mu\text{g}/\text{m}^3$ )	Sulphur Dioxide, 15 minute mean ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> Particles, 24 hour mean ( $\mu\text{g}/\text{m}^3$ )	PM <sub>10</sub> Particles, 24 hour mean ( $\mu\text{g}/\text{m}^3$ )
1	0–67	0–88	0–11	0–16
2	68–134	89–177	12–23	17–33
3	135–200	178–266	24–35	34–50
4	201–267	267–354	36–41	51–58
5	268–334	355–443	42–47	59–66
6	335–400	444–532	48–53	67–75
7	401–467	533–710	54–58	76–83
8	468–534	711–887	59–64	84–91
9	535–600	888–1064	65–70	92–100
10	$\geq 601$	$\geq 1065$	$\geq 71$	$\geq 101$

**Findings & Comments**

By analysing the above data, outdoor Air quality index is 114, and PM 2.5 and PM 10 parameters are not healthy and hence some pollution control measures are advised as the college is in proximity of industrial area.



AQI	Air Pollution Level	Health Implications	Cautionary Statement (for PM2.5)
0 - 50	Good	Air quality is considered satisfactory, and air pollution poses little or no risk	None
51 - 100	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
101-150	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.

AQI	Air Pollution Level	Health Implications	Cautionary Statement (for PM2.5)
151-200	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion
201-300	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.	Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
300+	Hazardous	Health alert: everyone may experience more serious health effects	Everyone should avoid all outdoor exertion

## 10. SOUND POLLUTION MONITORING

The human ear is constantly being assailed by man-made sounds from all sides, and there remain few places in populous areas where relative quiet prevails. There are two basic properties of sound,

1. **loudness**
2. **frequency.**

Loudness is the strength of sensation of sound perceived by the individual. It is measured in terms of Decibels. Just audible sound is about 10 dB, a whisper about 20 dB, library place 30 dB, normal conversation about 35-60 dB, heavy street traffic 60-75 dB, boiler factories 120 dB, jet planes during take-off is about 150 dB, rocket engine about 180 db. The loudest sound a person can stand without much discomfort is about 80 db. Sounds beyond 80 dB can be regarded as pollutant as it harms hearing system. The WHO has fixed 45 dB as the safe noise level for a city to avoid sleep disturbances. For international standards a noise level up to 65 dB is considered tolerable.

Frequency is defined as the number of vibrations per second. It is denoted in Hertz (Hz). Sound pollution is another important parameter that is taken into account for green auditing of the Campus. Different sites were chosen for the monitoring purpose

The Auditors measured sound level at different location as under:



S.No	Description	db (Avg)
1	Near office area in main building	86
2	Library 1 <sup>st</sup> Floor	62
3	Near Canteen area	86
5	Principal's office	75



**Findings and comments:** Sound level found satisfactory



## 11. WASTE MANAGEMENT

Waste management includes the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

Waste can be solid, liquid, or gas, each type has different methods of disposal and management. Waste management deals with all types of waste, including industrial, biological and household. In some cases, waste can pose a threat to human health. Waste is produced by human activity, for example, the extraction and processing of raw materials. Waste management is intended to reduce adverse effects of waste on human health, the environment or aesthetics.

Waste management practices are not uniform among countries (developed and developing nations) regions (urban and rural areas), and residential and industrial sectors can all take different approaches.

### 11.1. Dust Bins & Lifting of Waste

**Government College**, Dera Bassi has placed waste bins for proper segregation of solid wastes in the different locations of the campus

#### Details of dustbin at GC Dera Bassi

Dustbin	Make	Qty.	Capacity
1	Plastic Dublin	Blue & Green with Stand - 4	30 Ltr
2	Steel	8	20 Ltr



Separate Dustbins for Collection of Dry and Wet Waste have been placed at various places in GC Dera Bassi Campus for systematic disposal of waste.



### 11.2. Kitchen Waste

The Canteen in Govt College, Dera Bassi, Management runs for all the students, Staff and supporting Staff and has policy of zero food waste policy. It has created awareness for the same through posters in the canteen. The food waste log is maintained daily and makes sure people produce less food waste and as a community it excels in reduction of food waste.

**For taking care of Solid waste (Dry and Wet)** from various buildings, kitchens, canteens, etc, GC Dera Bassi management has tie up for lifting garbage and waste from campus with a local Municipal contractor. The waste collection vehicle of this contractor visits the campus twice a day for collection of waste which is already separated in Green and Blue dustbins (separate for dry and wet waste). Approximate waste collection tunes to 1 Quintals per month



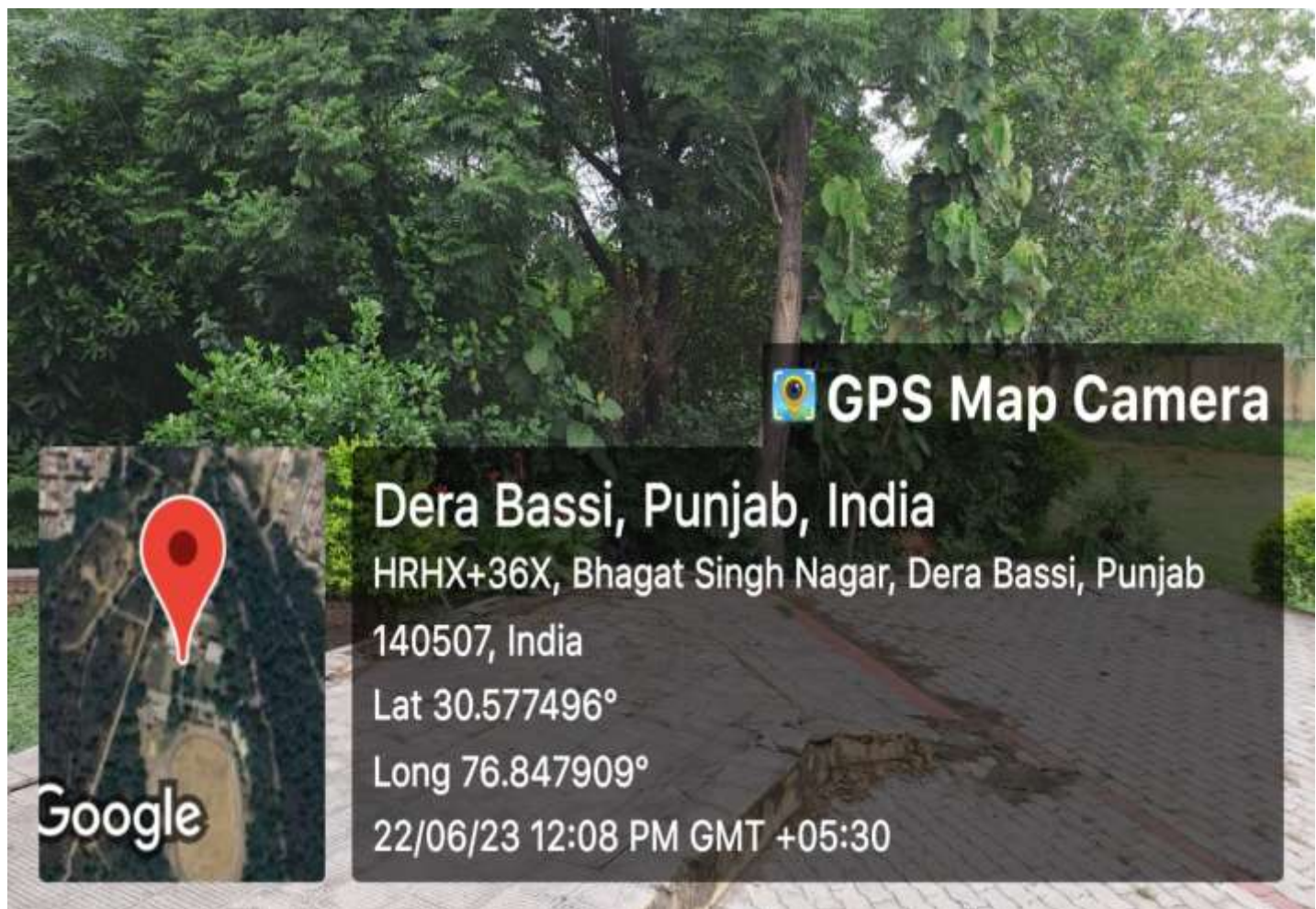


Picture Of Waste Being Collected From College Campus By Designated Waste Vendor Of Municipal Corporation – Also Seen In Picture Is Segregation Of Plastic And Bio-Degradable Waste Being Separately Collected

## 12. BIODIVERSITY IN CAMPUS

### Introduction

**Government College**, Dera Bassi situated in the vicinity of farms and agricultural areas is rich in biodiversity. To conserve this biodiversity, it is important to have an understanding of the bio-diversity of an area so that the local people can be aware of the richness of bio-diversity of the place they are living in and their responsibility to maintain that richness.



In today's world, among the popular conservation measures which are taken to spread wildlife and environmental awareness, butterfly gardens can be placed in a significant position. To create butterfly garden, we need to know which associate plants and other fauna are present in the surrounding. This study allows us to understand the faunal and floral diversity of the surrounding areas of the college premises and their inter-relationship.



### 12.1. Objectives:

The main objective of this study is to get a baseline data of bio-diversity of the area which will include:

- Documentation of the Landscape area use
- Documentation of the floral diversity of the area, its trees, herbs, shrubsetc.
- Documentation of the major faunal groups like mammals, reptiles, amphibians, birds and butterflies.

### 12.2. Method of Study

Brief methodology for the floral and faunal survey is given below:

.The total area was surveyed by walking at daytime.

Sampling was done mostly in random manner

Surveys were conducted for the maximum possible hours in daytime.

Tree species were documented through physical verification.

For faunal species we emphasized mainly on the direct sighting. Also call of various birds and amphibians and nesting of some faunal species were considered as direct evidences..

Reptiles were found mostly by looking in potential shelter sites like the under surface of rocks, logs, tree hollow sand leaf litter and also among and underneath the hedges. Sometimes some species, particularly the garden lizards were also observed in open spaces (on twigs and branches and even on brick constructions) while they were basking under direct and bright sunlight. Active invertebrates like the insects require more active search. For larger winged insects like butterflies, random samplings were carried and point sampling was also done.


### 12.3. Landscape Use

The baseline landscape consumption is calculated as 12.5 Litres/m<sup>2</sup>/day. Whereas, the actual landscape requirement is done as per the plantation species/trees/turf grass. Also, during the actual calculation the annual impending rainwater is also considered.

Location	Length	Width	Area (Sq-
	(ft.)	(Ft.)	Ft.)
Adm Lawn	73 ft	50 ft	3650 sqft
Arts block lawn	190 ft	160 ft	30400 sqft
Rusa Room	155 ft	71 ft	11005 sqft
Gym Lawn	65 ft	45 ft	2925 sqft
Round about	83 ft	83 ft	21650 sqft
Chemistry Lawn	105 ft	43 ft	4515 sqft
Science	145 ft	45 ft	6525 sqft
Nanak Bagichi	62 ft	45 ft	2790 sqft

The total landscape area of around 44000 SQFT in the campus premises utilize sprinklers and natural ditches to irrigate the green area

### Landscape watering schedule

 <b>LANDSCAPE WATERING GUIDELINES</b>						
How Much & How Often <small>Water to the outer edge of the plant's canopy and to the depth indicated. Watering frequency will vary depending on season, plant type, weather and soil.</small>	Seasonal Frequency - Days Between Waterings				Water This Deeply (Typical Root Depth)	
	Spring Mar - May	Summer May - Oct	Fall Oct - Dec	Winter Dec - Mar		
<b>Trees</b>	Desert adapted	14-30 days	7-21 days	14-30 days	30-60 days	24-36 inches
	High water use	7-12 days	7-10 days	7-12 days	14-30 days	24-36 inches
<b>Shrubs</b>	Desert adapted	14-30 days	7-21 days	14-30 days	30-45 days	18-24 inches
	High water use	7-10 days	5-7 days	7-10 days	10-14 days	18-24 inches
<b>Groundcovers &amp; Vines</b>	Desert adapted	14-30 days	7-21 days	14-30 days	21-45 days	8-12 inches
	High water use	7-10 days	2-5 days	7-10 days	10-14 days	8-12 inches
<b>Cacti and Succulents</b>		21-45 days	14-30 days	21-45 days	if needed	8-12 inches
<b>Annuals</b>		3-7 days	2-5 days	3-7 days	5-10 days	8-12 inches
<b>Warm Season Grass</b>		4-14 days	3-6 days	6-21 days	15-30 days	6-10 inches
<b>Cool Season Grass</b>		3-7 days	none	3-10 days	7-14 days	6-10 inches

These guidelines are for established plants (1 year for shrubs, 3 years for trees). Additional water is needed for new plantings or unusually hot or dry weather. Less water is needed during cool or rainy weather. Drip run times are typically 2 hours or more for each watering.

The best irrigation system is sprinkler which is one of effective way to save water, better yield and possibility of using soluble fertilizers and chemicals less problem of clogging of sprinkler nozzles due to sediment laden water

## 12.4. Findings

Matching with the green and sustainable practices, the college campus has facility for proper sewage disposal thru local Municipal Corporation, RO drinking water points, solid waste management system and separate parking facilities for 2 and 4 wheelers. Around 40 percent of the total campus area is covered with lush green lawns & plantation covering more than 1000 plants & tree species, thus giving pure oxygen to the students and making campus a treat to eyes.

## 12.5. Faunal Species

The list of Fauna indicates that the college campus is significantly rich in faunal diversity. Significant number of bird nests can be seen at many places.

### 12.6. List of Butterflies

No.	Common Name	Scientific Name
1	Common Rose	Pachliopta aristolochiae
2	Lime Butterfly	Papitto demolis
3	Tailed Jay	Grapheme agamemnon
4	Small Grass Yellow	Furema Brigitte
5	Common Grass Yellow	Eurema hecabe
6	Common Quaker	Neopithecops Zamora
7	Dark Grass Blue	Zizeeria karsandra
8	Indian Wanderer	Pareronia hippie
9	Lemon Emmigrant	Catopsila Pomona
10	Mottled Emmigrant	Catopsila pyranthe

### 12.7. List of Birds

No	Common Name	Scientific Name
1	House Crow	Corvus splendens
2	House Sparrow	Passer domesticus
3	Common Iora	Aegithrna tipsia
4	Common Kingfisher	Alcedo atthis
5	Common Myna	Acridotheres tristis
6	Common Pigeon	Colnmba livia



7	Common Sandpiper	Actitis hypoleucos
8	Common Tailorbird	Orthotomus sutortus
9	Coppersmith Barbet	Megalaima haemacephala
10	Common Hawk Cuckoo	Hierococcyx varlus
11	Common Hoopoe	Upupa epops

### 12.7. List of Amphibians

No.	Common Name	Scientific Name
1	Frog	Enphldctis cyanophlyctis
2	Indian Toad	Duttaphrynus melanostictus

### Faunal groups with species number

1.	Birds	15
2.	Reptiles	1
3.	Amphibians	2
4.	Butterflies	22

### 12.8. Floral species:

The list of Flora indicates a significant diversity of plants which indicates the overall richness of the place. The most diverse group is tree total 374 trees list as below:

TYPES OF PLANT SPECIES		
Sr.No	Species name	Quantity
<b>HERBS</b>		
1	Ajwain	3
2	Tulsi	20
3	Lemon Grass	10
4	Aloe veera	5
5	Lemon Grass	3
6	Gulhad	8

7	Pudina	10
8	Kari Patta	30
9	Basil	5
10	Gloe	3
<b>SHRUBS</b>		
1	Chandni	10
2	Christmass tree	1
3	Kner	10
4	Orange Havelia	20
5	Jagroopa	10
6	Bougainvila	10
7	Srow	20
8	Hibiscus	50
9	Duranta	100
10	Copper Bush	10
11	Bamboo	20
12	Rapis Palm	50
13	Ficus	10
14	Chandani	50
15	Exphorbia	50
16	Qualis	50
17	Rose	30
18	Black grass	30
19	Zenia	50
20	Kuchia	50
21	Cocus Comb	25
22	Photolaka	100
23	Kelia red	20
24	Kelia yellow	20
<b>TREES</b>		
1	Aam	7
2	Rubber Plant	6

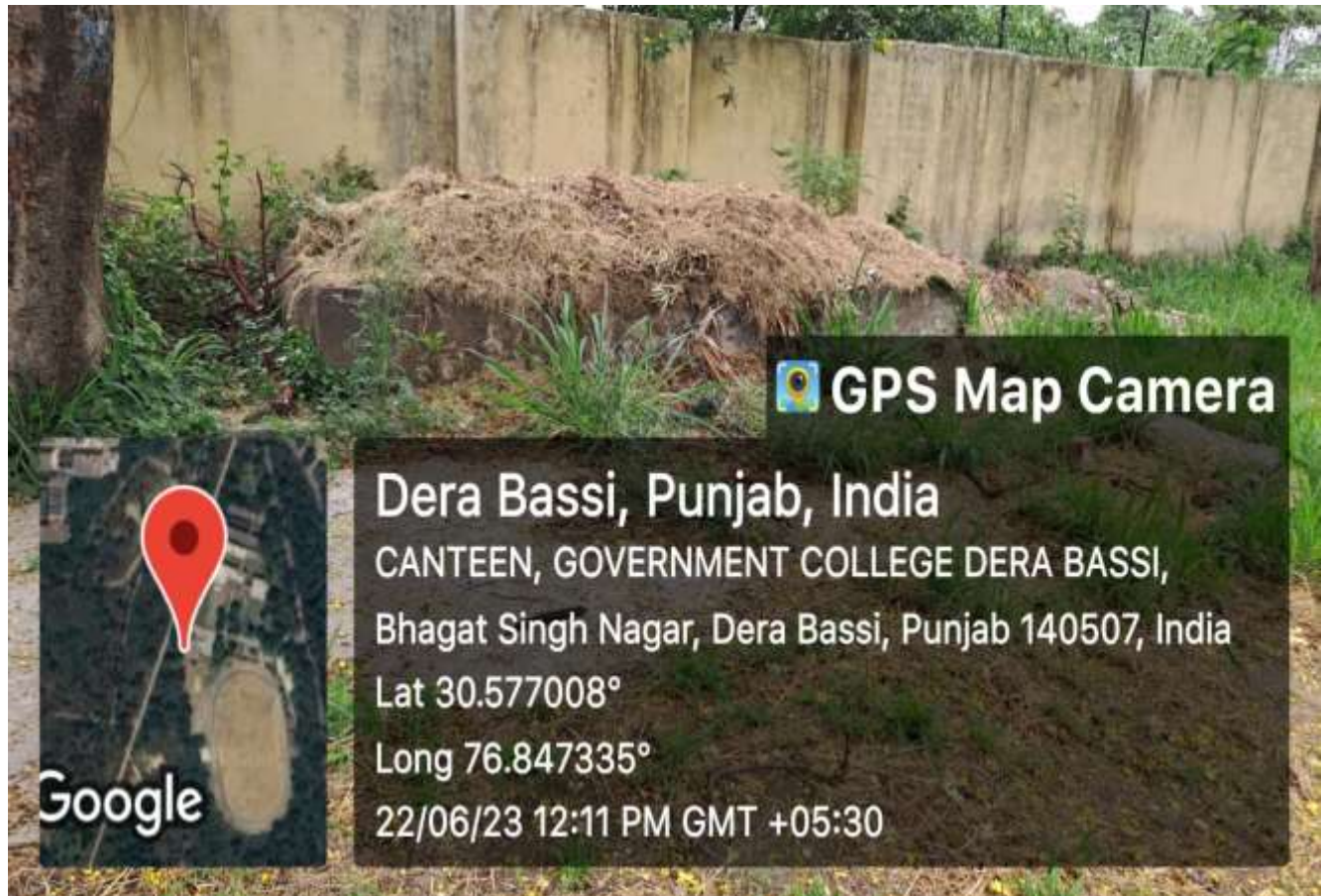
3	Chakrasia	5
4	Sukh Chain	10
5	Gulmohar	2
6	Amaltas	5
7	Aamla	2
8	Neem	20
9	Jamun	5
10	Kachnar	3
11	Sagwan	5
12	Silver ook	3
13	Daink	5
14	Amrood	3
15	Arjan	10
16	Kadam	1
17	Safeda	10
18	Pipal	3
19	Rudrakas	1
20	Malsari	5
21	Pink Asia	1
22	Ashoka	10
23	Bottle brush	7

Variety of Grass in campus as under

No.	Common Name	Scientific Name
1	Sensational plus one	Mexican Grass

### Disposal of Green Waste in Campus:

Dry leaves and other organic waste is well disposed off in college campus itself by collecting fallen leaves and dumping in Compost Pits. Compost pits are used to make manures and fertile compounds by dumping decaying biodegradable items. It contains numerous vital elements for plant growth and is hence frequently used as fertilizer.



- Prevents Soil Erosion. ...
- Assists in Storm water Management. ...
- Promotes Healthier Plant Growth. ...
- Conserves Water. ...
- Reduces Waste. ...
- Combats Climate Change. ...
- Reduces Project Maintenance Costs. ...
- Improves Soil Health.

**Findings:**

Biodiversity status of GC Dera Bassi campus found satisfactory.



## 13. RECOMMENDATIONS

1. The college campus is no doubt bio diversified but more plantations especially medicinal plantations are required in the campus. Plantation of fruit plants will attract more birds.
2. The Green Monitoring Team should consist of members from teaching staffs, non-teaching staffs, and students and if possible, try to include some local interested people.
3. Sustainable use of resource and ecology balance of the college campus must be maintained through the year.
4. The prolific use of insecticides/pesticides should be checked as these harmful chemicals are detrimental and instrumental for killing of insects/butterflies which are natural prey for the birds.
5. Enact stricter laws for single use plastic.
6. Sound, water and air quality monitoring be done on regular basis.
7. College Administration must explore possibility and implement setting of Rain Water Harvesting System. The area receives about 1000 MM of Rainfall in rainy season and catching and storing this water instead of wasting can be utilized for landscape irrigation or in Urinals by proper treatment.
8. Balance conventional lighting be replaced with LED lighting which will reduce the electricity consumption considerably.
9. More awareness camps be organized by college students and staff in nearby villages for subtle (crop residue) management.
10. Management may consider setting up Micro forest which will benefit the environment in a great manner.

## 14. PROGRAMME AND INITIATIVES

Programme and Initiatives taken by Government College Management and Students for promotion of Green and clean Environment in and around the College Campus

### GREEN CAMPUS POLICY FRAMED BY GOVERNMENT COLLEGE AUTHORITIES

Principal Government College Dera Bassi-140507 (S.A.S. Nagar)		ਪ੍ਰਿੰਸੀਪਲ ਸਰਕਾਰੀ ਕਾਲਜ ਡੇਰਾ ਬੱਸੀ-140507 (ਐਸ.ਏ.ਐਸ. ਨਗਰ)
Ph.: 01762-295167	E-mail:gcderabassi@gmail.com	Visit us at : www.gcderabassi.ac.in
Ref. No.....1937.....		Dated...22-6-2023

#### Govt. College Dera Bassi Green Campus Policy

Govt. College Derabassi is one of the Prestigious institution. College has a sprawling pollution free campus spread over 15 acres of land. College is committed to uplift the weaker section by admitting 70% students from rural areas. Government College, Dera Bassi, is located at a distance of 700 meters from Chandigarh-Ambala Road and surrounded by lush forest and natural environment, established in a natural Shanti Niketan like ambience, this college has been progressing by leaps and bounds in the last 43 years and has become an important institution meeting the needs of higher education in this area of Punjab that is adjacent to Haryana. It has also emerged as a lighthouse of knowledge to spread awareness. This college is a renowned institute of higher education mainly focusing on Arts, Commerce and Science studies. It is located amidst lush green environment making it pollution free and an eco-friendly campus 70% of the campus can be categorized as playgrounds, lawns and gardens. A huge area is left in its natural form and acts as a natural habitat for biodiversity and a large variety of species of herbs, shrubs and trees. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programs organised by the authority and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. Leaves absorb and filter the sun's radiant energy, keeping things cool in summer. Many species of birds are dependent on these trees mainly for food and shelter. Nectar of flowers and plants is a favorite of birds and many insects. Leaf-covered branches keep many animals, such as birds and squirrels, out of reach of predators. Different species display a seemingly endless variety of shapes, forms, texture and vibrant colours. Even individual trees vary their appearance throughout the course of the year as the seasons change. The strength, long lifespan and regal stature of trees give them a monument-like quality. They also remind us the glorious history of our institution in particular. We often make an emotional connection with these trees and sometime become personally attached to the ones that we see every day.

Municipal Government College  
Dera Bassi-140507  
(S.A.S. Nagar)



ਪ੍ਰਿੰਸੀਪਲ  
ਸਰਕਾਰੀ ਕਾਲਜ  
ਡੇਰਾ ਬਸੀ-140507  
(ਐਸ.ਏ.ਐਸ. ਨਗਰ)

Ph.: 01762-295167 E-mail:gcderabassi@gmail.com Visit us at : www.gcderabassi.ac.in

Ref. No..... / Dated..... /

### OUR VISION

Our vision is to Healthy Green practices increase environment awareness by motivating staff and students for optimized Sustainable use of available resources and to empower the young students by providing them holistic education with emphasis on alignment of theory with practice and academia .

### OUR MISSION

To provide a unique and different learning environment in the stream of Arts, Commerce and Science by imparting knowledge, skills, hands on practical training and industry exposure along with a strong value system in order to groom the students as competent, dynamic and socially awakened citizens of the country.

### Objectives of the Policy

- To protect and conserve ecological systems and resources within the campus.
- Identify and access environmental risk.
- To ensure judicious use of environmental resources.
- To protect and conserve ecological systems and resources in college.
- To integrate environmental concerns into policies and plans for social development.
- To make the campus plastic free.
- To minimize the use of paper work.
- Identify Healthy green Practices in college campus.

Municipal  
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ਡੇਰਾ ਬਸੀ-140507  
(ਐਸ. ਐਸ. ਨਗਰ)

Ph.: 01762-295167

E-mail:gcderabassi@gmail.com

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Dated. ....

### Clean Campus

- 1) College conducts bicycle rally to reduce Co2 emission.
- 2) College conducts awareness seminars/workshops and other interactive sessions to facilitate effective implementation of the Green Campus and Environment policies.
- 3) To organize awareness programs through conducting various activities, Essay writing, Poster making, Slogan Writing, competitions etc. on the Vanmahotsav/Environmental Day.
- 4) Waste material management is done and compost pit has been made for preparing manure.
- 5) Awareness drives against stubble burning in near by villages.

### Landscape

A thick belt of large shady trees in the periphery of the college have found to be bringing down noise and cut down dust and storms. Thus, the college has been playing a significant role in maintaining the environment of the entire Dera Bassi town in its surrounding areas. The diverse green cover of College is also home to a number of animals and birds, creating a campus rich in biodiversity. 'Cleanliness and Plantation Drive' has been conducted by NSS students & staff members.

### Clean Air Initiatives

- College encourages students to use bicycles and bike pool and staff to use car pool to control air pollution.
- Entry of vehicles inside the campus reduce the air pollution. All vehicles parked in parking area have air pollution clearance certificate.
- Smoking and use of tobacco in campus is strictly prohibited.
- Bicycles rallies are conducted by the college to a make students reduce air pollution.



Principal  
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ਡੇਰਾ ਬੱਸੀ-140507  
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Dated.....

### Infrastructural Initiatives

#### ◆ Renewable Sources of Energy

- To minimize and manage the use of electricity produced by non-renewable resources, college has switched to solar energy and Energy Saving and Energy Efficient Equipment such as LED's for purposes of lighting.

### Waste Management Processes

- College strives to have a minimal impact on the environment and is dedicated to reduce and manage the waste generated by the college campus by following specific procedures:

#### • Solid and Liquid Waste Management

- Systematically engage with 3Rs of environment friendliness (Reduce, Reuse and Recycle).
- Collect paper waste produced on campus and collaborate with scrap dealers for recycling.
- Reduce use of paper by supporting digitization of assignment and internal assessment records.
- Reduce requirement of printed books by updating the e-books and e-journals collection.
- Encourage the students and teachers to use emails for office work, Examination, Weekly Report and E-Contents etc.
- Minimize the use of water by maintain leak proof water fixtures and timely repairing water leakage from taps/pipes/flush.

  
Principal  
Smt. Kamna Gupta  
Dera Bassi (S.A.S. Nagar)

  
Prof. Rajbir Kaur  
Convener, Green Campus Club  
P.E.S.-I  
Govt. College,  
Dera Bassi



**VAN MAHOTSAV - TREE PLANTATION AND CLEAN INDIA DRIVES ARE CONDUCTED IN AND IN NEARBY AREAS OF COLLEGE CAMPUS BY STAFF AND STUDENTS**

**ਵਾਤਾਵਰਨ ਸੁਰੱਖਿਅਤ ਵਾਤਾਵਰਨ ਪ੍ਰਤੀ ਨਿਭਾ ਰਿਹੋ ਪ੍ਰੈਸ ਕਲੱਬ ਆਪਣੀ ਜ਼ਿੰਮੇਵਾਰੀ : ਕੁਲਜੀਤ ਰੰਧਾਵਾ**

# ਵਿਧਾਇਕ ਨੇ ਲਵਾਏ ਸਰਕਾਰੀ ਕਾਲਜ 'ਚ ਫਲਦਾਰ ਤੇ ਛਾਂਦਾਰ ਬੂਟੇ

**ਜੁਨੀਲ ਤੁਮਾਰ ਭੱਟੀ, ਡੇਰਾਬੱਸੀ**

ਮੌਨਸੂਨ ਸੀਜ਼ਨ ਨੂੰ ਮੁੱਖ ਰੱਖਦਿਆਂ ਪ੍ਰੈਸ ਕਲੱਬ ਸਬ-ਡਵੀਜ਼ਨ ਡੇਰਾਬੱਸੀ ਰਜਿ ਨੰਬਰ ਨੇ ਵਾਤਾਵਰਨ ਪ੍ਰਤੀ ਆਪਣੀ ਸਮਾਜਿਕ ਜ਼ਿੰਮੇਵਾਰੀ ਨੂੰ ਨਿਭਾਉਂਦੇ ਹੋਏ ਇਲਾਕੇ ਦੀਆਂ ਸਮਾਜ ਸੇਵੀ ਸੰਸਥਾਵਾਂ ਦੇ ਸਹਿਯੋਗ ਨਾਲ ਤੇ ਵਿਧਾਇਕ ਕੁਲਜੀਤ ਸਿੰਘ ਰੰਧਾਵਾ ਨੇ ਡੇਰਾਬੱਸੀ ਸਰਕਾਰੀ ਕਾਲਜ ਦੇ ਕੈਂਪਸ ਵਿਚ ਹਰਿਆਣੀ ਵਾਧੂਇਟ ਲਈ ਫਲਦਾਰ ਅਤੇ ਛਾਂਦਾਰ ਬੂਟੇ ਲਗਾ ਵਾਤਾਵਰਨ ਦੀ ਸੁਰੱਖਿਆ ਦਾ ਮੌਦੇਸ਼ ਦਿੱਤਾ ਗਿਆ। ਇਸ ਸਿੱਕੇ ਵਿਧਾਇਕ ਰੰਧਾਵਾ ਨੇ ਕਿਹਾ ਕਿ ਮੁੱਖ ਮੌਤਰੀ ਡਰਾਫੱਟ ਮਨ ਦੀ ਅਗਵਾਈ ਵਾਲੀ ਪੈਰਾਬ ਸਰਕਾਰ ਮੁਹਾਲੀ ਜਿਲ੍ਹੇ ਨੂੰ ਹਰਿਆ ਡਰਿਆ ਬਣਾਉਣ ਲਈ ਇਸ ਮਾਨਸੂਨ ਸੀਜ਼ਨ ਵਿਚ 10 ਲੱਖ ਬੂਟੇ ਲਗਾਏਗੀ। ਵਿਧਾਇਕ ਨੇ ਕਿਹਾ ਕਿ ਲਈ ਡਰਗਤ ਸਿੰਘ ਦੇ 11ਵੇਂ ਜਨਮ ਦਿਵਾਸੇ ਸਿੱਕੇ ਸੁੱਚੇ ਦੀ



ਹਲਕਾ ਵਿਧਾਇਕ ਕੁਲਜੀਤ ਸਿੰਘ ਰੰਧਾਵਾ ਵੱਲੋਂ ਪ੍ਰੈਸ ਦੀ ਟੀਮ ਅਤੇ ਕਾਲਜ ਸਟਾਫ਼ ਸਮੇਤ ਸਰਕਾਰੀ ਕਾਲਜ ਵਿਚ ਬੂਟੇ ਲਾਉਣ ਦੀ ਤਸਵੀਰ।  
ਹਰਿਆਣਲ ਵਾਧੂਇਟ ਲਈ ਇਹ ਕਾਰਵਾਈ ਕੀਤੀ ਜਾ ਰਹੀ ਹੈ, ਜਿਸ ਤਹਿਤ ਪ੍ਰੈਸ ਕਲੱਬ

ਸਬ ਡਵੀਜ਼ਨ ਡੇਰਾਬੱਸੀ ਦੇ ਮੈਂਬਰਾਂ ਵੱਲੋਂ ਕੀਤਾ ਗਿਆ ਉਪਰਾਲਾ ਸ਼ਲਾਘਾਯੋਗ ਹੈ। ਵਿਧਾਇਕ ਕੁਲਜੀਤ ਸਿੰਘ ਰੰਧਾਵਾ ਨੇ ਕਿਹਾ ਕਿ ਅਜ ਲਗਾਏ ਗਏ ਬੂਟੇ ਸਾਡੀ ਆਉਣ ਵਾਲੀ ਪੀੜ੍ਹੀ ਦੇ ਸੁਰੱਖਿਅਤ ਭਵਿੱਖ ਦਾ ਆਧਾਰ ਹਨ। ਇਸ ਲਈ ਵੱਧ ਤੋਂ ਵੱਧ ਰੁੱਖ ਲਗਾ ਕੇ ਅਸੀਂ ਆਪਣਾ ਅਤੇ ਆਉਣ ਵਾਲੀ ਪੀੜ੍ਹੀ ਦਾ ਭਵਿੱਖ ਸੁਰੱਖਿਅਤ ਕਰ ਸਕਦੇ ਹਾਂ। ਉਨ੍ਹਾਂ ਕਿਹਾ ਕਿ ਅਜ ਬਹੁਤ ਸਾਰੀਆਂ ਮਨੁੱਖੀ ਲੋੜਾਂ ਨੇ ਵਾਤਾਵਰਨ ਦਾ ਬਹੁਤ ਨੁਕਸਾਨ ਕੀਤਾ ਹੈ, ਜਿਸ ਦੇ ਸਿੱਟੇ ਬਹੁਤ ਘਾਤਕ ਸਿੱਧ ਹੋ ਚੁੱਕੇ ਹਨ। ਪ੍ਰੈਸ ਕਲੱਬ ਸਬ ਡਵੀਜ਼ਨ ਦੇ ਅਧਿਕਾਰੀਆਂ ਅਤੇ ਮੈਂਬਰਾਂ ਨੇ ਕਿਹਾ ਕਿ ਸਿਰਫ਼ ਬੂਟੇ ਚੀ ਨਹੀਂ ਲਗਾਏ ਜਾਣਗੇ, ਸਗੋਂ ਉਨ੍ਹਾਂ ਦੀ ਸੰਭਾਲ ਦੀ ਜ਼ਿੰਮੇਵਾਰੀ ਵੀ ਨਿਭਾਈ ਜਾਵੇਗੀ ਅਤੇ ਹਰਿਆਣਲ ਨੂੰ ਜੰਗਲਾਂ ਤੋਂ ਬਚਾਓ ਤੱਕ ਇਲਾਉਣ ਲਈ ਉਪਾਲੇ ਕੀਤੇ ਜਾ ਰਹੇ ਹਨ। ਉਨ੍ਹਾਂ ਕਿਹਾ ਕਿ ਅਜ ਦੇ ਸਮੇਂ ਵਿਚ ਡਾ ਦੀ ਲੋੜ ਸਭ ਨੂੰ

ਹੈ ਪਰ ਰੁੱਖ ਲਗਾਉਣਾ ਕੋਈ ਨਹੀਂ ਚਾਹੁੰਦਾ। ਕਾਲਜ ਦੀ ਪ੍ਰਿੰਸੀਪਲ ਡਾ ਅਮਲਦੀਪ ਕੌਰ ਨੇ ਕਿਹਾ ਕਿ ਅਸੀਂ ਬੂਟੇ ਲਗਾ ਕੇ ਆਪਣਾ ਕੱਠੂ ਸੁਰੱਖਿਅਤ ਕਰ ਸਕਦੇ ਹਾਂ। ਬੂਟੇ ਲਗਾਉਣਾ ਦੇਸ਼ ਦੇ ਹਰ ਨਾਗਰਿਕ ਦੀ ਨੈਤਿਕ ਜ਼ਿੰਮੇਵਾਰੀ ਹੈ। ਇਸ ਸਿੱਕੇ ਰਵਿੰਦਰ ਵੈਜਨਵ, ਗੁਰਮੀਤ ਸਿੰਘ, ਗੁਰਪ੍ਰੀਤ ਸਿੰਘ, ਮੰਦੀਪ ਵਰਮਾ, ਜੁਨੀਲ ਭੱਟੀ, ਦਿਨੇਸ਼ ਵੈਸ਼ਨਵ, ਜਗਜੀਤ ਸਿੰਘ ਕਲੋਰ, ਮੇਜਰ ਅਈ, ਪ੍ਰੈ ਸਿੰਘੈ ਜੰਗਲ, ਪ੍ਰੈ ਸਵਿਤਾ ਗੁਪਤਾ, ਪ੍ਰੈ ਰਾਜਬੀਰ ਕੌਰ, ਪ੍ਰੈ ਸਲਨੀ, ਪ੍ਰੈ ਨਵਦੀਪ ਕਪੂਲ, ਪ੍ਰੈ ਨਵਜੋਤ ਕੌਰ, ਪ੍ਰੈ ਸਦੋਤਾ ਪਰਬੰਦਾ, ਪ੍ਰੈ ਸੁਮਿਤਾ ਕਟੋਰ, ਪ੍ਰੈ ਬੰਸਿੰਦਰ ਕੌਰ, ਸੁਮਿਤੀ ਡੁੱਪਿੰਦਰ ਕੌਰ, ਸੁਮਿਤਰ ਸਿੰਘ, ਸੁਮਿਤਰਾ ਕੁਮਾਰ, ਪ੍ਰੈ ਪਰਿਵਾਰ ਵਲੋਂ ਪ੍ਰਧਾਨ ਤੁਸ਼ਾਰ ਕੌਸ਼ਿਕ ਵੀ ਆਪਣੇ ਸਾਥੀਆਂ ਸਮੇਤ ਹਾਜ਼ਰ ਸਨ।





**CLEANNESS DRIVES ORGANIZED BY GOVERNMENT COLLEGE, DERA BASSI**







**CELEBRATION OF WORLD ENVIRONMENT DAY BY COLLEGE STUDENTS NSS UNIT**





ਪਿੰਡ ਮੁਕੰਦਪੁਰ ਵਿਖੇ ਪਰਾਲੀ ਨਾ ਸਾੜਨ ਸੰਬੰਧੀ ਲਗਾਏ ਗਏ ਮੈਗਾ ਜਾਗਰੂਕਤਾ ਕੈਂਪ ਦੀਆਂ ਕੁਝ ਝਲਕੀਆਂ

ਐੱਨ. ਐੱਸ. ਐੱਸ ਵਿਭਾਗ ਵਲੋਂ 27 ਅਕਤੂਬਰ 2022 ਨੂੰ ਭਾਰਤ ਸਰਕਾਰ ਦੀਆਂ ਹਦਾਇਤਾਂ ਅਨੁਸਾਰ "ਸਵੈੱਛ ਭਾਰਤ ਮਿਸ਼ਨ 2.0" ਤਹਿਤ 'ਸਫ਼ਾਈ ਮੁਹਿੰਮ' ਦਾ ਆਯੋਜਨ ਕੀਤਾ। ਲਗਭਗ 52 ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਭਾਗ ਲਿਆ ਅਤੇ ਕਾਲਜ ਕੈਂਪਸ ਅਤੇ ਨੇੜਲੇ ਖੇਤਰਾਂ ਤੋਂ ਪਲਾਸਟਿਕ ਅਤੇ ਹੋਰ ਸਮੱਗਰੀ ਦੀ ਸਫ਼ਾਈ ਕੀਤੀ। ਨਗਰ ਕੌਂਸਲ ਨੇ ਪਲਾਸਟਿਕ ਨੂੰ ਚੁੱਕਣ ਲਈ ਨਗਰ ਕੌਂਸਲ ਟਰਾਲੀ ਦੇ ਕੇ ਕਾਲਜ ਦੀ ਮਦਦ ਕੀਤੀ। ਕਾਲਜ ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਵੱਲੋਂ ਲਗਭਗ 60 ਕਿਲੋ ਪਲਾਸਟਿਕ ਇਕੱਠਾ ਕੀਤਾ ਗਿਆ। ਵਿਦਿਆਰਥੀਆਂ ਵੱਲੋਂ ਸਵਛਤਾ ਅਤੇ ਪੋਸਟ ਪਖਵਾੜ ' ਮਨਾਉਣ ਸਬੰਧੀ ਪੋਸਟਰ ਵੀ ਲਗਾਏ ਗਏ

**ANTI POLLUTION DRIVES ARE BEING REGULARLY ORGANIZED BY STAFF AND STUDENTS OF GC DERA BASSI AGAINST SUBTLE AND CROP RESIDUE BURNING IN NEARBY VILLAGES**



ਸਰਕਾਰੀ ਕਾਲਜ ਵਿਖੇ ਐੱਨਐੱਸਐੱਸ ਵਾਲੰਟੀਅਰ ਸਾਈਕਲ ਰੈਲੀ ਕੱਢਦੇ ਹੋਏ।

## ਐੱਨਐੱਸਐੱਸ ਵਾਲੰਟੀਅਰਾਂ ਕੱਢੀ ਸਾਈਕਲ ਰੈਲੀ

ਪੱਤਰ ਪ੍ਰੇਰਕ, ਡੇਰਾਬੱਸੀ : ਸਰਕਾਰੀ ਕਾਲਜ ਡੇਰਾਬੱਸੀ ਵਿਖੇ ਪ੍ਰਿੰਸੀਪਲ ਸ਼੍ਰੀਮਤੀ ਕਾਮਨਾ ਗੁਪਤਾ ਦੀ ਯੋਗ ਅਗਵਾਈ ਹੇਠ ਆਜ਼ਾਦੀ ਦੇ ਅੰਮ੍ਰਿਤ ਮਹਾਉਤਸਵ ਸੌਕੇ ਵਿਸ਼ਵ ਸਾਈਕਲ ਦਿਵਸ ਮਨਾਇਆ ਗਿਆ। ਇਸ ਸੌਕੇ ਕਾਲਜ ਦੇ ਐੱਨਐੱਸਐੱਸ ਵਾਲੰਟੀਅਰਾਂ ਵੱਲੋਂ ਇੱਕ ਸਾਈਕਲ ਰੈਲੀ ਕੱਢੀ ਗਈ। ਇਸ ਰੈਲੀ ਰਾਹੀਂ ਵਾਤਾਵਰਣ ਨੂੰ ਪ੍ਰਦੂਸ਼ਣ ਰਹਿਤ ਰੱਖਣ ਦਾ ਸੰਦੇਸ਼ ਦਿੱਤਾ ਗਿਆ। ਇਸ ਰੈਲੀ ਵਿਚ 30

ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਵਧ-ਚੜ੍ਹ ਕੇ ਹਿੱਸਾ ਲਿਆ ਅਤੇ ਇਸ ਦੇ ਨਾਲ ਹੀ ਸੰਡਮ ਪ੍ਰਿੰਸੀਪਲ ਸ਼੍ਰੀਮਤੀ ਕਾਮਨਾ ਗੁਪਤਾ ਨੇ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਪ੍ਰਦੂਸ਼ਣ ਰਹਿਤ ਵਾਤਾਵਰਣ ਨੂੰ ਬਣਾਉਣ ਲਈ ਪ੍ਰੇਰਨਾ ਦਿੱਤੀ। ਇਸ ਸੌਕੇ ਵਾਈਸ ਪ੍ਰਿੰਸੀਪਲ ਡਾ. ਸੁਜਾਤਾ ਕੌਸ਼ਲ, ਵਾਤਾਵਰਣ ਕਮੇਟੀ ਦੇ ਕਨਵੀਨਰ ਪ੍ਰੋ. ਰਾਜਬੀਰ ਕੌਰ, ਪ੍ਰੋ. ਆਮੀ ਤੱਲਾ, ਪ੍ਰੋ. ਬਿੰਦਰ ਅਤੇ ਪ੍ਰੋ. ਰਵਿੰਦਰ ਸਿੰਘ, ਪ੍ਰਵੀਨ ਚੰਦਰ, ਜਗਿੰਦਰ ਸਿੰਘ ਵੀ ਸੰਜੁਦ ਸਨ।

**CYCLE RALLY BEING ORGANIZED BY COLLEGE STAFF AND STUDENTS REGARDING GREEN / ENVIRONMENTAL AWARENESS**

## 15. CONCLUSION

Considering the diversity of **Government College, Dera Bassi**, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. The installation of solar water heater system and replacement of conventional lighting with LED lighting are noteworthy. Besides, environmental awareness program initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of strategic management using eco-friendly and scientific techniques. This may lead to the prosperous future in context of Green Campus & thus sustainable environment and community development

**For R.K. Electricals and Energy Audit Services**

**(END OF THE REPORT)**



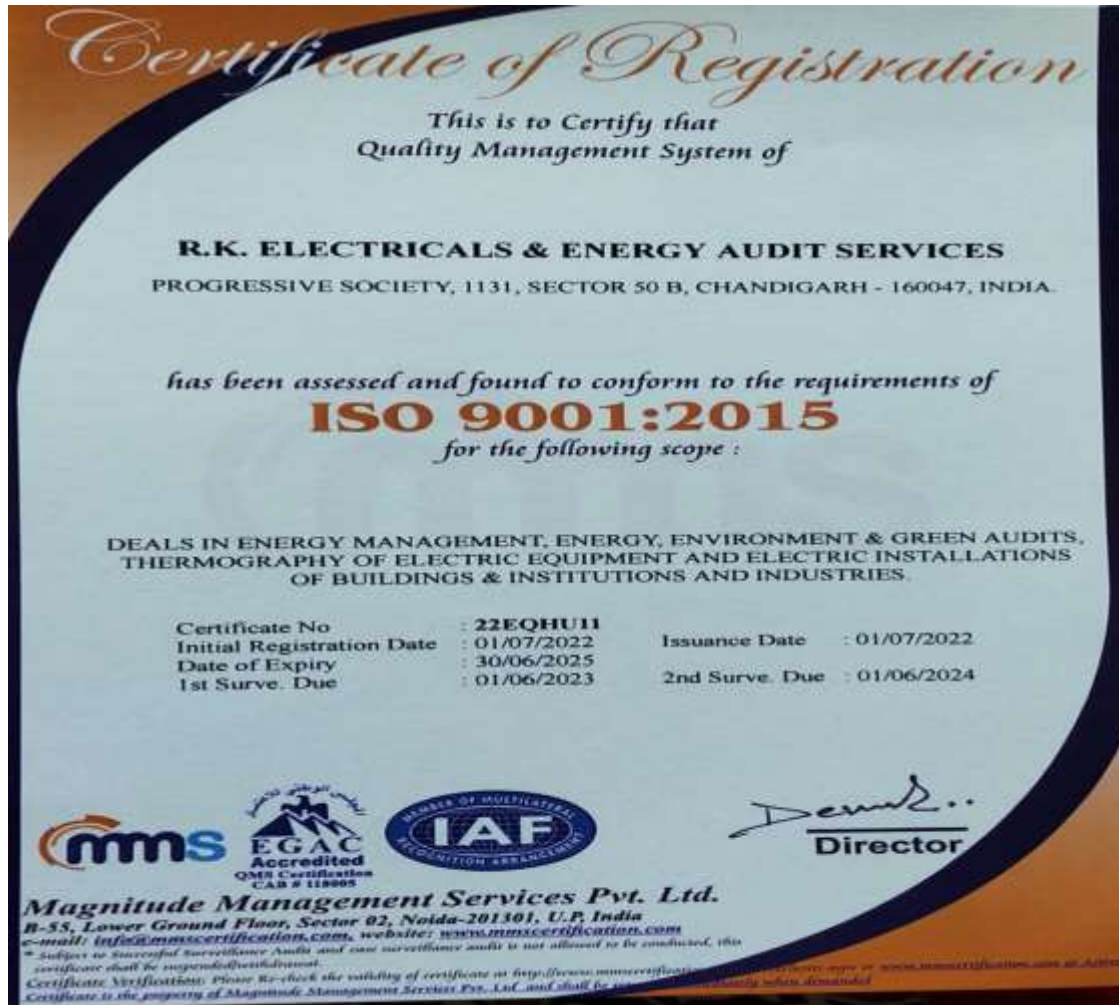
## 16 Credentials in r/o “R.K. Electricals and Energy Audit Services”

### 16.1. Certificate ISO 50001:2018(Energy Management Services)





16.2. Certificate ISO 9001:2015 Quality Management



16.3. Certificate ISO 14001:2015 (Environmental Management System)



#### 16.4. Certificate of Energy Auditor EA-10080 MoP GoI



**16.5. Certificate of IGBC Accredited Professional (IGBC India)**





## Annex. Guidelines



### NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL, BENGALURU

F. No. 14-29/2022

26<sup>th</sup> May 2022

#### Advisory on ISO 9001/Green Certificates/Audits

As per the resolution of 96<sup>th</sup> meeting of the Executive Committee of NAAC held on 26<sup>th</sup> May 2022, in the manuals for Self-Study Report for institutional accreditation there are couple of metrics on quality audit; green audit, energy audit, and environmental audit;

This has led to several institutions going for certifications and falling prey to unscrupulous private certifying/audit agencies issuing certificates to unsuspecting academic institutions.

It is informed that there is an international system of accreditation of such audit/certifying agencies in which the National Accreditation Board of Certification Bodies (NABCB), a constituent Board of the Quality Council of India, attached to the Ministry of Commerce & Industry, is member from India (website - <http://nabcb.qci.org.in/index.php>). The international system for certification operates under the aegis of the International Accreditation Forum (IAF) and its member accreditation bodies (ABs) are listed on its website [iaf.nu](http://iaf.nu). Similarly, for inspection/audit, which is a one-time activity, the international system is operated under the International Laboratory Accreditation Cooperation (ILAC) of which also NABCB is a member. A list of ILAC members can be seen on its website <https://ilac.org/>

It is therefore advised that the following should be observed:

1. It should be ensured that the ISO 9001 certificates are from certifying agencies accredited either by NABCB or any member AB of IAF. The certificate should carry the logo of the AB concerned.
2. There is now an ISO standard for educational institutions, ISO 21001, and institutions may obtain certification under this standard from any certifying agency as mentioned in 1. above in lieu of ISO 9001 certification.

3. As for green certification, there are recognized standards such as ISO 14001 for environment management systems or ISO 50001 for energy management systems which promote green practices and certificates to these may be obtained following advice in 1. above.
4. Any other certification claimed to be green certification should be to a recognized standard and the agency should be accredited as mentioned in 1. above
5. In case any institution goes for a one-time green audit, it should ensure that the agency is accredited as per ISO 17020 for a recognized standard/criteria for green audits by NABCB or any member of ILAC and the report/certificate carries logo of the AB.

**The logo of the AB on the certificate ensures that the audit/certifying agency is accredited for auditing/certifying educational institutions and hence essential.**

All academic institutions who have already obtained such certificates should check that they have authentic certificates and if not, ensure that these are replaced as per above advisory within one year.

In case of any doubts, academic institutions may consult NABCB at [nabcb@qcin.org](mailto:nabcb@qcin.org).

Sd/-  
Director, NAAC

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