RK's Energy Audits Valuation (Plant & Machinery)

2024 - 25

GREEN AUDIT REPORT

SANT BABA BHAG SINGH

UNIVERSITY, JALANDHAR

AUDIT CONDUCTED ON: 21, 22 & 23.07.2025

STUDY CODUCTED BY:

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CERTIFICATE

This is to confirm that "Sant Baba Bhag Singh University Jalandhar" performed a detailed Green Audit of their campus during the academic year 2024-2025 and submitted all required data and credentials for evaluation. Based on the report submitted, the University's actions and measures have been verified and found to be satisfactory. The efforts made by staff and students in the areas of environment and sustainability are much appreciated and encouraged.

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for giving us an opportunity to conduct the Green Audit of SBBS University, Jalandhar .

The Study team **sincerely** thanks the support staff members of SBBS University who have rendered their all-possible co-operation and assistance during the entire period of assignment.

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2. EXECUTIVE SUMMARY

R.K. Electricals & Energy Audit Services was entrusted the Green audit of Sant Baba Bhag Singh University. The management of the university 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 campuses 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.

SBBSU 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, SBBSU 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 SBBS University, Jalandhar for the academic year 2024-2025

2.1. The brief description of Audit

Project Title: Green Audit of Sant Baba Bhag Singh University, Jalandhar	
Client: Registrar, Sant Baba Bhag Singh University, Jalandhar	
Contact Person: Dr. Anil Kumar Singh	
Date of Audit: 21, 22 & 23 July 2025	
Source: Data collection from the staff & Physical verification/Inspection	
Report No. RKS/ENV/57/2025	**Date of report: 29.07.2025**
***Work Carried out by**:(Team Composition)*	**Er. R.K. Sharma (BEE's Energy Auditor) EA-10080 &** **IGBC Accredited Professional** **Er Paramjeet Singh (BEE's Energy Auditor) EA-19322** **Ms Savita Sharma MSc (Ecology Environment)** **Er. Varun Sharma B. Tech (EE), MBA, PGD (Indl Safety)**

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3. INTRODUCTION

3.1. Back ground of SBBS University (SBBSU) The Sant Baba Bhag Singh Memorial Charitable Society, under the dynamic leadership of Sant Baba Malkit Singh Ji, has been providing essential infrastructure facilities to the people living in the vicinity of Dera Sant Pura Jabbar, near Adampur Doaba, Dist. Jalandhar. This includes constructing bridges and roads and providing street lights to villages. The Society began offering formal education by establishing the SBBS Institute of Engineering & Technology in 2003. This was followed by the establishment of SBBS International School in 2004, SBBS Institute of Education in 2005, SBBS Institute of Nursing in 2005, SBBS Research & Development Centre in 2010, SBBS Post Graduate College in 2011, and SBBS Public School, Binjon in 2011. Rural healthcare has been provided through Guru Nanak Sadh Sangat Charitable Hospital, Kalra, since 2003.

In pursuance of the vision: "To encourage each and every child to get educated, acquire knowledge and wisdom so as to learn the art of leading a happy, successful, and meaningful life," all these institutions established their presence in the field of education, leading to their flowering into Sant Baba Bhag Singh University, established under the Sant Baba Bhag Singh University Act, 2014.

The institutions have made significant contributions in the field of education, as evidenced by excellent results and placement records. With state-of-the-art infrastructure catering to the needs of students, a pollution-free and drug-free campus, a focus on excellence in teaching, and the active involvement of students and faculty in co-curricular and extracurricular activities—including NCC, NSS, industrial visits, and a remarkable presence in sports among educational institutions—along with a culture of imbibing ethical values, Sant Baba Bhag Singh University is an ideal choice for quality education.

3.2. Green Analysis can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The ‘Green Audit’ aims to analyses environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Analysis. Green auditing is essentially an environmental management tool for measuring the effects of certain activities on the environment against set criteria or standards

3.3 Utility of Green Audit

These are used to help improve existing human activities, with the aim of reducing the adverse effects of these activities on the environment. The audit team will study an organization’s environmental effects in a systematic and documented manner and will produce a green audit report.

4. OBJECTIVE OF THE STUDY

The main objective of the green analysis is to promote the Environment Management and Conservation in the university Campus. The purpose of the analysis is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Analysis are:

- To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requiring high cost and To bring out a present status report on environmental compliance
- To introduce and aware students to real concerns of environment and its Sustainability.
- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use of the campus.

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:

- Geographical Metrological parameters
- Water consumption and management
- Electricity consumption and management
- Air quality assessment and management
- Sound pollution monitoring
- Waste management
- Biodiversity status of the campus

6. GEOGRAPHICAL AND METROLOGICAL PARAMETERS

Jalandhar with Latitude and Longitudes **31.326015, 75.576180** Jalandhar, formerly known as Jullundur in British India, is a city in the Doaba region of the northwestern Indian state of Punjab. Jalandhar is the oldest inhabited major city in the Indian state of Punjab. In recent times the city has undergone rapid urbanisation and has developed into a highly industrialised centre of commerce. The district lies in the South-western region of the State and in far away from the Shivalik ranges in the North of the state. The city is well connected by road to Chandigarh both by road and rail and also with prominent places like Delhi, Amritsar, Jalandhar, Ludhiana, Patiala, Ambala, Jammu etc.

6.1. Weather Bins

This area has a humid subtropical climate characterized by a seasonal rhythm: hot summers, mild winters, unreliable rainfall and great variation in temperature. Jalandhar 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.

6.2. CLIMATE

The climate of this district is on the whole dry except during the brief south-west monsoon season. The year may be divided into four seasons. The cold season is from the middle of November to early part of March. The succeeding period up to the end of June is the summer season, July, August and first half of September constitute the South-West monsoon season. The period from middle September to the middle of November is the post monsoon or transition period.

6.3. RAINFALL

The average annual rainfall in the district is 703.0 mm. The rainfall in the district in general increases from the south-west towards the north-east and varies from 551.3 mm at Nakodar to 892.3 mm at Adampur About 70 per cent of the annual normal rainfall in the district is received during the period July to September. The variation in the rainfall from year to year in the district is appreciable. In the 80 year, 1901 to 1980, the highest annual rainfall amounting to 181 per cent of the normal occurred in 1917. The lowest annual rainfall which was 55 per cent of the normal occurred in the year 1905. In the same period, the annual rainfall in the district was less than 80 per cent of the normal in 22 years.On an average, there are 36 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. The heaviest rainfall in 24 hours recorded at any station in the district was 304.8 mm at Jalandhar on 18 August 1878.

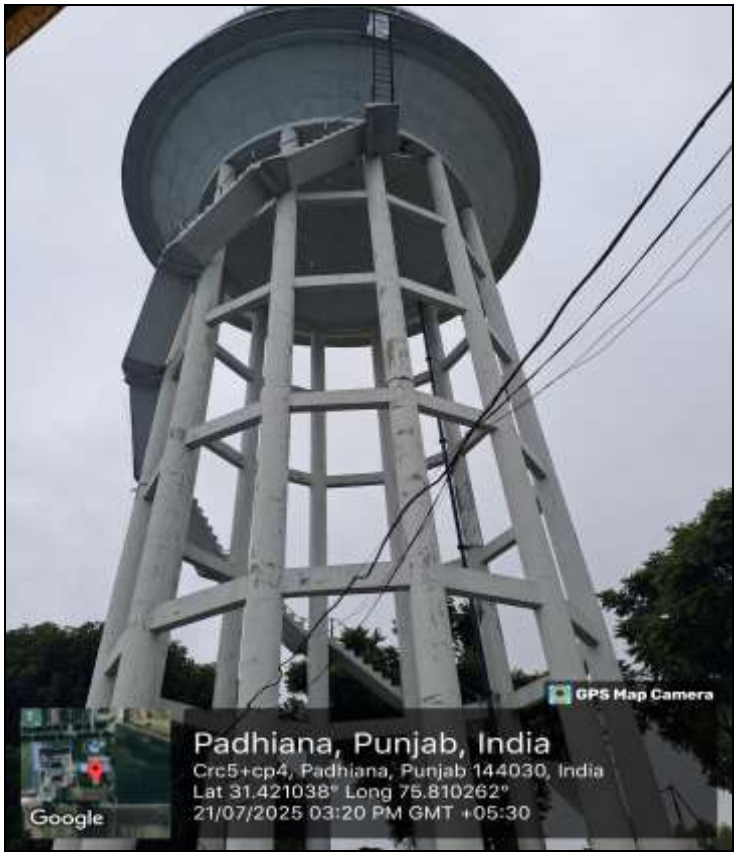
6.4. TEMPERATURE

January is generally the coldest month with the mean daily maximum temperature at about 190C and the mean daily minimum at about 60C during the winter season. After February, temperature begins to rise rapidly. June is generally the hottest month with the mean daily temperature at about 41oC and the mean daily minimum at about 27oC. Scorching dust laden winds blow on many days in the summer season and the day temperatures on individual days may reach above 450C. Due to increase moisture in the monsoon air, the weather is often sultry and uncomfortable, in between these rains. As the monsoon withdraws by mid-September temperatures decrease and night temperature drop rapidly

7. WATER CONSUMPTION AND MANAGEMENT

7.1. Water extraction and Storage

SBBSU receive water from seven submersible pumps. These pumps extract ground water and further feed to main storage overhead tank and several rooftop plastic water tanks. The one main concrete storage tank has storing capacity of 5 Lakh Liters and rooftop plastic tanks has capacity of 2000 Lts each totaling 25 tanks.



Main Water storage Tank

7.2. Drinking water and quality

The campus has provided purified R.O. drinking water to all the students and staff residing in the campus by connecting RO filters with water coolers. In additional to drinking purpose, R.O water is provided to the hostel mess for cooking foods.
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.

MEASURED PH VALUE AND TDS VALUE OF FILTERED DRINKING WATER

Auditors checked the quality of the drinking water after it is treated from RO 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	7.8	Good
2	Sample of drinking water for testing TDS (total dissolved solids) Value	196 ppm	Good

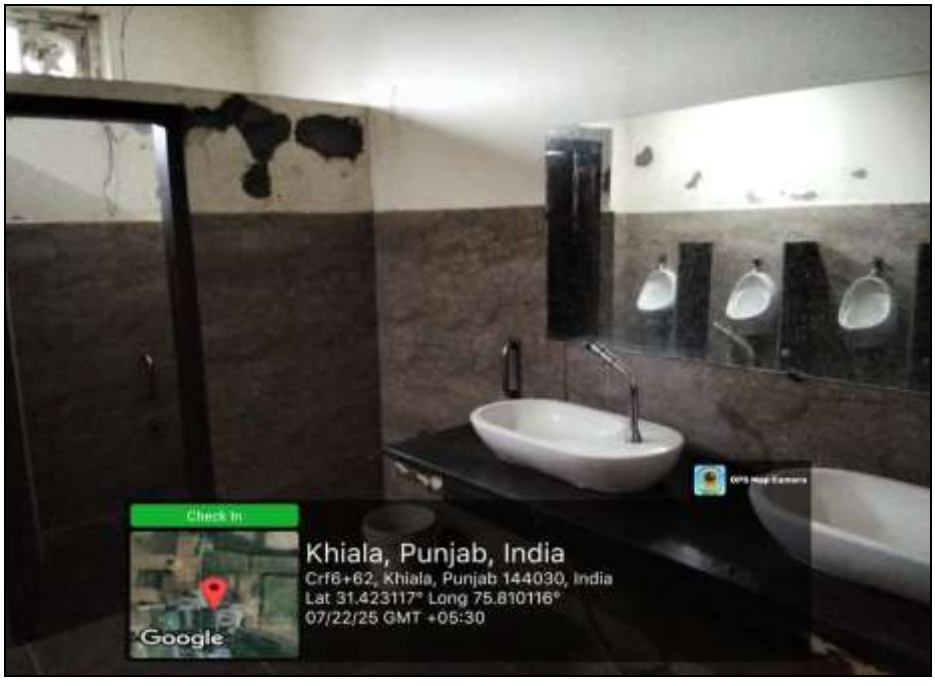
Findings:

1. The PH value of safe drinking water lies between 6.5 & 8.5
Tested the sample of drinking water and found to be 7.8 which is Neutral PH value for safe drinking water

2. The TDS value of safe drinking water is less than 284 ppm
The TDS value of tested sample found to be 196 which is good and safe for drinking water

7.3. Water Conservation

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



WASHROOMS FITTED WITH MANUALLY OPERATED TAPS IN SBBSU CAMPUS.

SENSOR BASED FLUSHING SYSTEM URINALS ARE RECOMMENDED FOR WATER CONSERVATION

7.4. Use of Efficient Water Urinals/Fixtures

- **Low water use urinals:** SBBSU is already in use of the standard systems urinals. Water is applied manually and no leaks were found in operation.
- **Smart flush systems:** Now a days smart flush system using 0.8 litres per flush have also been launched.
- **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

1. Identifying and Fixing Leaks especially in common washrooms.
2. Review Leakages periodically& take corrective measures
3. Re-use Water
4. Recycle 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

7.5.1 Review Leakages periodically& 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.

7.6. Reuse & Recycle

The University campus has installed a very efficient and economical sewage treatment plant near Shivalik Hostel to take care of sewage waste flowing out of various buildings, canteens, hostels, residential areas etc. The spent water from STP is being used for irrigation and spent slurry from STP is used as natural manure for nearby agricultural. Treated water being used in toilets flushing, gardening, fountains, fire fighting equipment's

7.6.1 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,

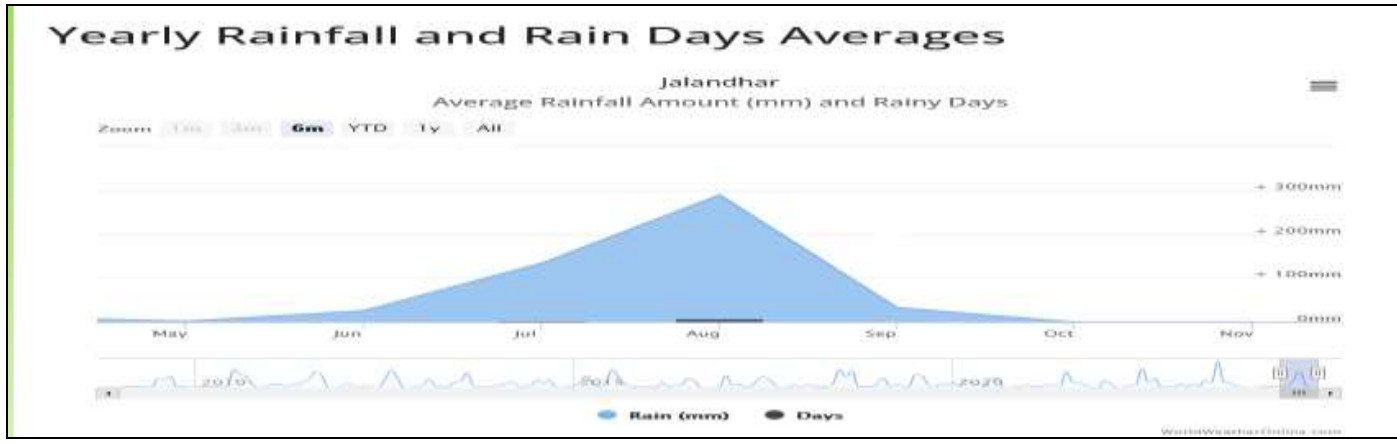
SBBSU campus has a underground rainwater harvesting tank associated with each main building which is a good practice to conserve rainwater from pathways, gardens and building rooftops which after treatment is utilized for nearby agricultural farms and Green / Polyhouses in the campus.

RAINWATER HARVESTING TANK NEAR BLOCK 5 AT SBBSU JALANDHAR

7.7. Rain fall

The normal annual rainfall of Jalandhar District is 408 mm in 20 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 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 Jalandhar 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.



	January	February	March	April	May	June	July	August	September	October	November	December
Precipitation / Rainfall mm	19	33	25	20	20	58	128	121	68	12	5	9
Humidity %	67%	60%	48%	30%	28%	42%	64 %	69%	61%	47%	51%	60%
Rainy days	2	3	3	3	4	7	12	11	6	2	1	1

MONTHLY RAINFALL IN THE REGION

8. ELECTRICITY CONSUMPTION AND MANAGEMENT

SBBSU University, Jalandhar, Jalandhar draws power from PSPCL through dedicated feeder at 11 KV. The Campus has a transformer of 500 KVA to step down the voltage from 11 KV to 433V.

8.1. Detail electricity billing

Billing Month 2024-25	Solar generation 2024-25(KWH)	Solar Consumption 2024-25(KWH)	Actual Consumption 2024-25 (kVAh)
JUL	6096	6060	74572
AUG	4565	4565	97740
SEP-OCT	6350	6350	130620

NOV	5585	5561	34628
DEC	3845	3841	36756
JAN	2235	2207	17496
FEB	4894	4894	41752
MAR	4654	4654	34812
APR	120	120	90248
MAY	0	0	81744
JUN	353	351	89180
TOTAL	**38697**	**38603**	**729548**

From the above table it is depicted that for the year 2024-25 38697 units of electricity generated and consumed through Solar power plant installed by the university management using renewable source of energy

8.2 Energy conservation measures

SBBSU has installed 100 KWp capacity power plant for use of Renewable energy Resources

ROOFTOP SOLAR POWER PLANT (100 KWP) INSTALLED IN CAMPUS

SOLAR WATER HEATERS CAN BE INSTALLED ON ROOFTOPS OF HOSTEL AND CANTEENS IN CAMPUS

FINDINGS & COMMENTS

IT IS FURTHER SUGGESTED THAT HOSTEL MESS AND BATHROOMS AND CANTEEN AREA BE PROVIDED WITH SOLAR WATER HEATERS TO CAPTURE AND UTILIZE FREELY AVAILABLE SOLAR ENERGY FOR HOT WATER, MOREOVER, BETTER CLEANING AND MAINTENANCE OF SOLAR PANELS WILL SURELY ADD SOLAR

As seen from the above table, 79.46% of electricity power purchased from the utility and 5.30% power consumed which is generated by solar power plant and 15.24% utilized from Diesel Gensets installed in the SBBSU University.

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 1health 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.

Index	Nitrogen Dioxide, Hourly mean (µg/m³)	Sulphur Dioxide, 15 minute mean (µg/m³)	$PM_{2.5}$ Particles, 24 hour mean (µg/m³)	PM_{10} Particles, 24 hour mean (µg/m³)
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	≥ 601	≥ 1065	≥ 71	≥ 101

AQI Basics for Pollution			
CO2	**TVOC**	**HCHO**	**Description of Air Quality**
< 600 ppm	**< .6mg/m3**	**< .0.08mg/m3**	Air quality is excellent, and air pollution poses no risk.

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

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.
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

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 %
1	Block 5 GF	698	0.145	0.02	30	75
2	Block 8 FF	698	0.146	0.001	30	75
3	Near Main Gate	708	0.147	0.24	32	74
4	Near Canteen	597	0.146	0.024	31	75

9.4 Auditors also measured the outdoor quality of air which has been depicted below

AQI (µg/m3)	PM 10 (µg/m3)	PM 2.5 (µg/m3)	CO (ppm)	NO2 (ppb)	O3 (ppb)	SO2 (ppb)
45	32	27	2.04	94.55	41.75	8.95

BY ANALYSING THE ABOVE DATA, OUTDOOR AIR QUALITY INDEX IS 46, AND PM 2.5 AND PM 10 PARAMETERS ARE IN HEALTHY RANGE

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 and (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 in Campus as under:

MEASURING SOUND PARAMETERS IN CAMPUS

Indicative Sound Levels

S.No.	Area of Campus	Decibels (dB) Recorded
1	Block 5 GF	60.9
2	Block 8 FF	49.7
3	Near Main Gate	75
4	In Mess area	86

Findings:
Sound level found satisfactory except for in Mess area of Boys Hostel.

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

SBBS University has placed waste bins for proper segregation of solid wastes in the different locations of the campus

Number of dustbins at SBBSU Jalandhar listed below

Details of dustbin at SBBSU

Item	Nos.
Dust Bin 15 ltr Utility (Blue)	20
Dust Bin 15 ltr Green	45

11.2. Kitchen Waste

The Canteen in SBBSU University, 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 SBBSU excels in reduction of food waste.

For taking care of Solid waste (Dry and Wet) from various buildings, kitchens, canteens, hostels etc, SBBSU 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 for collection of waste which is already separated in Green and Blue dustbins (separate for dry and wet waste). Approximate waste collection tunes to 400-500 Quintals per day. Biochemical Waste from lab is separately stored in Red bins and disposed off as per statuary norms.

SEPARATE COLOUR DUSTBINS ARE PLACED IN VARIOUS PLACES IN CAMPUS FOR COLLECTION OF DRY, WET AND BIOMEDICAL

3. Sewage Treatment Plant

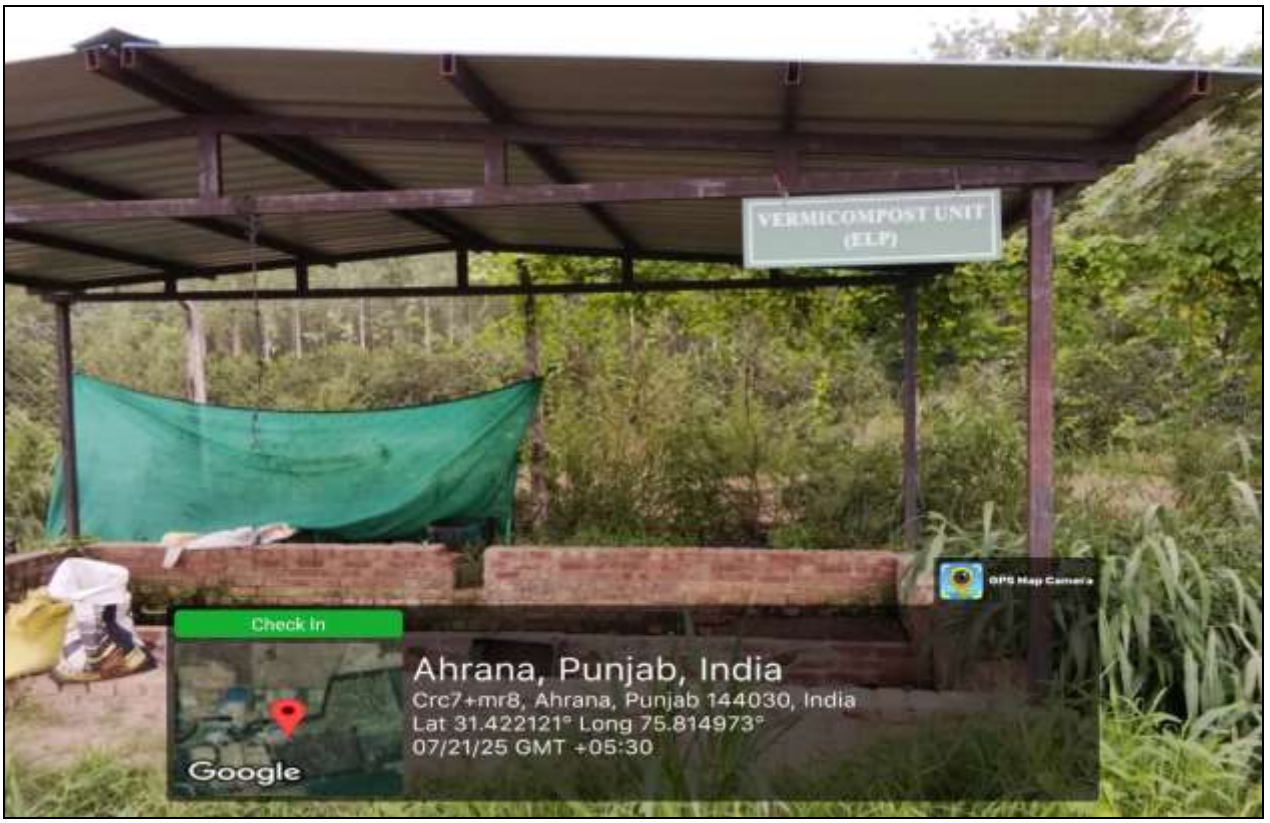
The University campus has installed an efficient and economical sewage treatment plant to take care of sewage waste flowing out of various buildings, canteens, hostels, residential areas etc.

The capacity of this STP (MBBR type) is 600 KL/Day.
A regular operator (Shift wise) is deployed for continuous operation of this plant. The spent water from STP is being used for irrigation and spent slurry from STP is used as natural manure for nearby agricultural fields

STP (MBBR TYPE), CAPACITY-600 KL/DAY

11.4 Garden / Green Waste Management

For disposing off remains of vegetation and tree leaves, a compost pit has been erected in the backyard of campus. Fallen leaves, tree barks etc are disposed off in compost pit and after in about 40-60 days, decomposed material serves as a natural manure to aid plantation.



Here are some benefits of compost:

- Prevents soil erosion
- Assists in stormwater management
- Promotes healthier plant growth
- Conserves water
- Reduces waste
- Combats climate change
- Reduces project maintenance costs
- Improves soil health

12. BIODIVERSITY IN CAMPUS

Introduction

SBBS University 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 responsibilityto 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 university premises and their inter-relationship.

12.1. Objectives:

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

Documentation of the Landscape area use

Documentation of the floral diversity of the area, its trees, herbs, shrubsand climbers.

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/m2/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.

However, as the part of landscape demand is catered with the treated water from STP. Hence, the treated water is reduced from the total landscape demand for more feasible solution.

LOCATION	AREA (SQ MT)
BLOCK 3	118274
BLOCK 4	4379
BLOCK 5	119127
BLOCK 6	93068
BLOCK 7	55958
BLOCK 8	55082
BLOCK 9	12709
BLOCK 10	17283
BLOCK 11	9171
BLOCK 12	1085
BLOCK 13	3210
BLOCK 14	1780
BLOCK 15	783
BLOCK 16	4947
Garden Area	371946.5
TOTAL	**631401.6**

The total landscape area 631402 Sq M in the campus premises utilise sprinklers and natural ditches to irrigate the green area. Further treated water is utilized to irrigate farm lands and plantations inside the campus , thus maximising the use of water treated by STP.

Land Scape Watering Schedule

In winter season –Alternate days; Others-Twice a week

Irrigation

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 university campus has facility for sewerage treatment plant, 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 5000 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 university campus is significantly rich in faunal diversity. Significant number of bird nests can be seen at many places. Faunal groups with species number

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	CoInmba 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

1.	Birds	360
2.	Reptiles	12
3.	Amphibians	187
4.	Butterflies	267

12.8. Floral species:

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

12.9 DETAILS OF FLORAL SPECIES IN CAMPUS

Climber

S. No.	Name	Common name	Family	Growth form	Total
1	*Asparagus officinalis*	Asparagus	Asparagaceae	Climber	6
2	*Bougainvillea glabra*	Bougainvillea/Paperflower	Nyctaginaceae	Climber	30
3	*Clitoria ternatea*	Aparajita	Fabaceae	Climber	3
4	*Tinospora cordifolia*	Gloae	Mennispermaceae	Climber	30
				Total	**69**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Herb

S.No.	Name	Common name	Family	Growth form	Total
1	*Asplenium dalhousiae*	Fern	Aspleniaceae	Fern	3
2	*Dryopteris sp.*	Dryopteris	Dryopteridaceae	Fern	6
3	*Nephrolepis sp.*	Fern	Nephrolepidaceae	Fern	3
4	*Pteris sp.*	Fern	Pteridaceae	Fern	5
5	*Canna indica*	Dev ked	Cannaceae	Herb	40
6	*Chlorophytum comosum*	Spider plant	Asparagaceae	Herb	14
7	*Chrysanthemum sp.*	Guldawadi	Asteraceae	Herb	1500
8	*Colocasia sp.*	Tara	Araceae	Herb	20
9	*Dahlia pinnata*	Dahlia	Asteraceae	Herb	20
10	*Haworthia sp.*	Zerba plant	Asparagaceae	Herb	2
11	*Mentha sp*	Mint/ pudina	Lamiaceae	Herb	2
12	*Ocimum tenuiflorum*	Black Tulsi	Lamiaceae	Herb	2
13	*Ophiopogon japonicus*	Dwarf lily	Asparagaceae	Herb	60
14	*Pelargonium graveolens*	Sweet scented geranium	Geraniaceae	Herb	9
15	*Plectranthus scutellarioides*	Coleus	Lamiaceae	Herb	9
16	*Portulacaria afra*	Elephant Bush	Didiereaceae	Herb	2
17	*Tagetus erecta*	Zinnia	Asteraceae	Herb	1340
18	*Withania somnifera*	Ashwagandha	Solanaceae	Herb	40
19	*Zephyranthes sp.*	Zephyr lily	Amaryllidaceae	Herb	1100
20	*Cynodon dactylon*	Dhuba, grass	Poaceae	Herb (Grass)	8
21	*Bahunia vahlii*	Torrr	Fabaceae	Lianas	2
				Total	4187

Shrub

S. No.	*Name*	Common Name	Family	Growth Form	Total
1	*Agave americana*	Guarpatha	Asparagaceae	Shrub	16
2	*Alcea rosea*	Gulkhaira	Malvaceae	Shrub	22
3	*Aloe vera*	Alovera	Asparagaceae	Shrub	33
4	*Areca sp.*	Areca palm	Arecaceae	Shrub	15
5	*Beaucarnea recurvata*	Ponytail palm	Asparagaceae	Shrub	12
6	*Bryophyllum sp.*	Patharchat	Crassulaceae	Shrub	12
7	*Cascabela thevetia*	Kaner	Apocynaceae	Shrub	8
8	*Casuarina equisetifolia*	Beach pine	Casuarinaceae	Shrub	35
9	*Cestrum diurnum*	Din Ka Raja	Solanaceae	Shrub	8
10	*Cestrum nocturnum*	Raat Ki Rani	Solanaceae	Shrub	5
11	*Cordyline fruticosa*	Palm lily	Asparagaceae	Shrub	8
12	*Dracaena fragrans*	Dracaena	Asparagaceae	Shrub	45
13	*Duranta erecta*	Nilkanta	Verbenaceae	Shrub	3320
14	*Dypsis lutescens*	Bamboo Palm	Arecaceae	Shrub	10
15	*Euphorbii milli*		Euphorbiaceae	Shrub	7
16	*Ficus benjamina*	Weeping Fig	Moraceae	Shrub	75
17	*Hamelia patens*	Firebush	Rubiaceae	Shrub	50
18	*Hibiscus rosa-sinensis*	Gurhal	Malvaceae	Shrub	80
19	*Jasminum officinale*	White Jasmine	Oleaceae	Shrub	6
20	*Jatropha integerrima*	Peregrina	Euphorbiaceae	Shrub	25
21	*Juniperus*	Cedar	Cupressaceae	Shrub	32
22	*Melaleuca bracteata*	the black tea-tree	Myrtaceae	Shrub	27
23	*Monstera deliciosa*	Swiss cheese plant	Araceae	Shrub	6
24	*Murraya koenigii*	Kadi Patta	Rutaceae	Shrub	3
25	*Murraya paniculata*	Kaaminee	Rutaceae	Shrub	58
26	*Nerium oleander*	Kaner	Apocynaceae	Shrub	24
27	*Opuntia elatior*	Cactus	Cactaceae	Shrub	3
28	*Opuntia ficus-indica*	Opuntia	Cactaceae	Shrub	4
29	*Plumeria sp.*	Gulchin	Apocynaceae	Shrub	22
30	*Punica granatum*	Pomegranate	Lythraceae	Shrub	6
31	*Ravenala madagascariensis*	traveller's palm	Arecaceae	Shrub	4
32	*Rosa indica*	Rose	Rosaceae	Shrub	255

34	*Strelitzia reginae*	Crane flower	Strelitziaceae	Shrub	1
35	*Tabernaemontana divaricata*	Chandini	Apocynaceae	Shrub	35
36	*Tecoma stans*	Yellow bells	Bignoniaceae	Shrub	24
37	*Zamia furfuracea*	Cardboard palm	Zamiaceae	Shrub	12
38	*Zanthoxylum sp.*	Tirmira	Rutaceae	Shrub	1
39	*Nyctanthes arbor-tristis*	Parijaat	Oleaceae	Small Tree	5
				Total	4339

Trees

.No.	*Name*	Common name	Family	Growth form	Total
1	*Acacia auriculiformis*	Northern Black Wattle	Fabaceae	Tree	12
2	*Acacia nelotica*	Kikkar	Fabaceae	Tree	8
3	*Albizia lebbeck*	Lebbek/Sareen	Fabaceae	Tree	15
4	*Alstonia scholaris*	Devil tree	Apocynaceae	Tree	200
5	*Araucaria columnaris*	Cook's Pine	Araucariaceae	Tree	12
6	*Artocarpus heterophyllus*	Jackfruit	Moraceae	Tree	10
7	*Azadirachta indica*	Neem	Meliaceae	Tree	38
8	*Bamboo sp.*	Bamboo		Tree	20
9	*Bismarckia nobilis*	Bismarck Palm	Arecaceae	Tree	8
10	*Callistemon viminalis*	Bottle Brush	Myrtaceae	Tree	35
11	*Caryota urens*	Fishtail palm	Arecaceae	Tree	15
12	*Casuarina equisetifolia*	Whistling Pine	Casuarinaceae	Tree	2
13	*Celtis australis*	European Nettle Tree/Honeyberry	Cannabaceae	Tree	8
14	*Chukressia sp.*	Chukressia	Sapindaceae	Tree	87
15	*Citrus limetta*	Musambi	Rutaceae	Tree	20
16	*Citrus limon*	Lemon	Rutaceae	Tree	12
17	*Citrus sinensis*	Orange	Rutaceae	Tree	22
18	*Corymbia citriodora*	Safeda	Myrtaceae	Tree	2
19	*Cycas revoluta*	Cycas	Cycadaceae	Tree	31
20	*Dalbergia sissoo*	Shisham Tree	Fabaceae	Tree	27
21	*Delonix regia*	Gulmohar Tree	Fabaceae	Tree	7
22	*Eucalyptus tereticornis*	Eucalyptus	Myrtaceae	Tree	8
23	*Ficus bengalensis*	Bargad tree	Moraceae	Tree	4
24	*Ficus elastica*	Ruibber Plant	Moraceae	Tree	6

25	*Ficus infectoria*	Piipli	Moraceae	Tree	6
26	*Grevillea robusta A.Cunn.*	Silver Oak	Proteaceae	Tree	9
27	*Jacaranda mimosifolia*	Neeli gulmohar	Bignoniaceae	Tree	12
28	*Livistona chinensis*	Chinese fan palm	Arecaceae	Tree	10
29	*Mangifera indica*	Mango	Anacardiaceae	Tree	71
30	*Melia azedarach*	Darek	Meliaceae	Tree	85
31	*Moringa oleifera*	Sohanjna/Drumstick	Moringaceae	Tree	12
32	*Morus alba*	Shahtoot	Moraceae	Tree	7
33	*Morus alba*	Shahtut	Moraceae	Tree	6
34	*Musa acuminata*	Banana	Musaceae	Tree	3
35	*Neolamarckia cadamba*	Kadamb	Rubiaceae	Tree	5
36	*Phoenix roebelenii*	Pygmy date palm	Arecaceae	Tree	37
37	*Phyllanthus emblica*	Amla	Phyllanthaceae	Tree	15
38	*Pinus roxburghii*	Chir Pine	Pinaceae	Tree	4
39	*Platycladus orientalis*	mayurpankhi	Cupressaceae	Tree	16
40	*Polyalthia longifolia*	Indian mast tree	Annonaceae	Tree	10
41	*Pongamia pinnata*	Sukh Chain	Papilionaceae	Tree	10
42	*Populus alba*	Poplar	Salicaceae	Tree	8
43	*Psidium guajava*	Guava	Myrtaceae	Tree	22
44	*Pterospermum acerifolium*	Kanak Champa	Malvaceae	Tree	20
45	*Putranjiva roxburghii*	Putranjiva	Euphorbiaceae	Tree	2
46	*Roystonea regia*	Royal palm	Arecaceae	Tree	30
47	*Salix alba*	Willow Tree	Salicaceae	Tree	12
48	*Senna siamea*	kassod tree	Fabaceae	Tree	7
49	*Syzygium cumini*	Jamun	Myrtaceae	Tree	20
50	*Terminalia arjuna*	Arjun Tree	Combretaceae	Tree	63
51	*Terminalia bellirica*	Bahera Plant	Combretaceae	Tree	11
52	*Thuja occidentalis*	Eastern White Cedar	Cupressaceae	Tree	6
53	*Toona ciliata*	Toon	Tilaecae	Tree	8
54	*Ziziphus jujuba Mill.*	Ber	Rhamnaceae	Tree	1
55	*Ziziphus mauritiana*	Ber/Indian Plum	Rhamnaceae	Tree	5
56	*Cassia fistula*	Amaltash	Fabaceae	Tree	21
				Total	1163

Seasonal – Winter Annuals		
Sr. No	**Species**	**Qty planted in campus**
1	Marigold	55
2	Dahlia	27
3	Calendula	28
4	Petunia	56
5	Dianthus	26
10	Poppy	50
Pot Plants		
1	*Areca*	22
2	*Bryophyllum*	20

***FINDINGS:* BIODIVERSITY STATUS OF SBBSU CAMPUS FOUND SATISFACTORY.**

No.	Common Name	Scientific Name
1	Bermuda grass	*Cynodon dactylon*

13. RECOMMENDATIONS

1. The formation of a 'Green Monitoring Committee' is necessitated. The priority of this body is to maintain the greenery of the university campus. 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.

2. The university 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.

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. More banners / posters depicting harms of plastics, green environment awareness etc may be put up in campus for awareness.

7. **Every year NCC, NSS and Students of University Institute of Agriculture (UIA) carry out extensive anti-subtle burning awareness programme in nearby villages, which can be increased**

8. Campus has nearly 25 Plus diesel run buses, regular pollution checks and optimal usage is recommended.
   Also, trees in campus area can be sprinkled with water to remove dust from leaves, so that better photosynthesis be performed.

14. PROGRAMME AND INITIATIVES

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

Plantation drive by students and faculty of Department of Physical Sciences at Bhogpur, Punjab.

Tree Plantation and Clean India Drives Are conducted in and in nearby areas of SBBSU Campus by Staff and students

Tree Plantation and Clean India Drives Are conducted in and in nearby areas of SBBSU Campus by Staff and students

Awareness lecture by Dr. Amandeep Singh "Strategies for Biodiversity Conservation" at village: Bhagowal, Distt.: Hoshiarpur, Punjab, India,

Sant Baba Bhag Singh UNIVERSITY
Village: Khiala: PO: Padhiana, Distt: Jalandhar 144030
Website: www.sbbsuniversity.ac.in Phone: 0181-2711163 Fax: 0181-2711555

Plantation Drive by the Department of Physical Education

To promote environmental awareness, conservation, and sustainability, a plantation drive focusing on medicinal plants was organized by the Environment Sustainability Management (ESM) Cell under the aegis of IQAC. The event, held on November, 17, 2023 (Friday) in the Sant Baba Malkit Singh Ji Memorial Botanical Garden, was undertaken by the teaching staff members of the Department of Physical Education at Sant Baba Bhag Singh University. The initiative was carried out with the blessings of the Reverend Chancellor Sant Manmohan Singh Ji and under the guidance of Hon'ble Vice-Chancellor, Prof. (Dr.) Dharmjit Singh Parmar.

Students and faculty members collectively planted more than 50 medicinally important plants. Medicinally important plants such as Kalmegh (Andrographis paniculata), Siris Tree (Albizia lebbeck), Indian Laburnum (Cassia fistula), Indian Gooseberry (Emblica officinalis) and Indian Olibanum (Boswellia serrata) were planted during the plantation drive. Dr. Indu Sharma, Associate Professor in the University Institute of Sciences (UIS) appreciated the plantation drive and also briefed about the importance of these medicinally important plants.

Glimpses of Plantation Drive by the Department of Physical Education & Sports

Plantation drive by students and faculty of UIET at Village: Arniala Shahpur, Distt.: Hoshiarpur, Punjab, India

Awareness and planation drive by UIS at Dingrian Primary School, Bhogpur Jalandhar

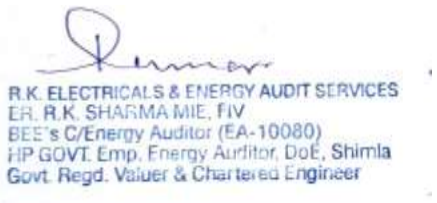
Earth Day Celebration by UIS

World Water Day Celebration by UIET

World Water Day Celebration by UIET

15. CONCLUSION

Considering the diversity of SBBSU University, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. The installation of solar power plant and solar water heater system 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 & Energy Audit Services

(END OF THE REPORT)

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Certificate No.: 09112620G

Date of initial registration	*Date of this Certificate*	*Surv. audit on or before/ Certificate expiry*	*Recertification Due*
01 October 2024	*01 October 2024*	*30 September 2025*	*30 September 2027*

This Certificate remains valid subject to satisfactory surveillance audits.

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EGAC Accredited

IAF

Director

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Director (Certification)
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Certificate Number: E20240913825
Date of certification: 26/09/2024
Ist Surveillance on or before: 25/09/2025
IInd Surveillance on or before: 25/09/2026
Certification Valid Until: 25/09/2027

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

EGAC

Accredited
OHSMS Certification CAB# 119012

Director (Certification)
Royal Assessments Pvt. Ltd.

623 A, Tower-B, iThum, Plot No. A - 40, Sector - 62, Noida 201301, India.
www.royalapl.com, info@royalapl.com
Phone : +91 120 4251329
This Certificate can be verified at www.iafcertsearch.org

This Certificate is an endorsement of certified clients certification status but remains the property of Royal Ass... Pvt. Ltd. Certificate must be returned on RAPL's request or if certificate is withdrawn. Validity of certificate is subject to su... tion of

e) Certificate of Energy Auditor MoP GoI

Regn. No. EA-10080

Certificate No. 5591

National Productivity Council

(National Certifying Agency)

PROVISIONAL CERTIFICATE

This is to certify that Mr. / Ms. Rakesh Kumar Sharma

son / daughter of Mr. Krishan Datt

has passed the National Certification Examination for Energy Auditors held in July - 2010, conducted on behalf of the Bureau of Energy Efficiency, Ministry of Power, Government of India.

He / She is qualified as Certified Energy Manager as well as Certified Energy Auditor.

He / She shall be entitled to practice as Energy Auditor under the Energy Conservation Act 2001, subject to the fulfillment of qualifications for the Accredited Energy Auditor and issue of certificate of Accreditation by the Bureau of Energy Efficiency under the said Act.

This certificate is valid till the issuance of an official certificate by the Bureau of Energy Efficiency.

Place : Chennai, India

Date : 7th October, 2010

Controller of Examination

f) Certificate of Energy Auditor MoP GoI

Regn. No. EA-19322

Certificate No. 7889

National Productivity council

National Productivity Council

(National Certifying Agency)

PROVISIONAL CERTIFICATE

This is to certify that Mr. / Mrs./ Ms. Paramjeet Singh

son / daughter of Mr. Barkha Ram

has passed the National Certification Examination for Energy Auditors held in August - 2013, conducted on behalf of the Bureau of Energy Efficiency, Ministry of Power, Government of India.

He / She is qualified as Certified Energy Manager as well as Certified Energy Auditor.

He / She shall be entitled to practice as Energy Auditor under the Energy Conservation Act 2001, subject to the fulfillment of qualifications for the Accredited Energy Auditor and issue of certificate of Accreditation by the Bureau of Energy Efficiency under the said Act.

This certificate is valid till the issuance of an official certificate by the Bureau of Energy Efficiency.

Place : Chennai, India

Date : 6th January, 2014

Controller of Examination

g) Certificate of IGBC Accredited Professional (IGBC India)

IGBC

CII
Confederation of Indian Industry

The Indian Green Building Council

hereby certifies that

Rakesh Kumar Sharma

has successfully demonstrated knowledge on the Green Building Design & Construction, Building Standards & Codes, IGBC Resources & Processes and Green Design Strategies & their Impacts, required to be awarded the title of

IGBC Accredited Professional

K S Venkatagiri
Executive Director
CII-Godrej GBC

Gurmit Singh Arora
Chairman
Indian Green Building Council

B Thiagarajan
Vice-Chairman
Indian Green Building Council

h) Certificate of Electrical Engg.

Regn. cum Roll No. L-40405009

ਪੰਜਾਬ ਟੈਕਨੀਕਲ ਯੂਨੀਵਰਸਿਟੀ

Punjab Technical University

Jalandhar

BACHELOR OF TECHNOLOGY

Mr./Ms. Varun Sharma son/daughter of Sh. Rakesh Sharma

student of Chandigarh Engineering College, Landran, having completed the course of studies approved by the University and having passed the prescribed examination held in Dec.-2007, has been conferred the degree of Bachelor of Technology of this University in the discipline of Electrical Engineering in First Division.

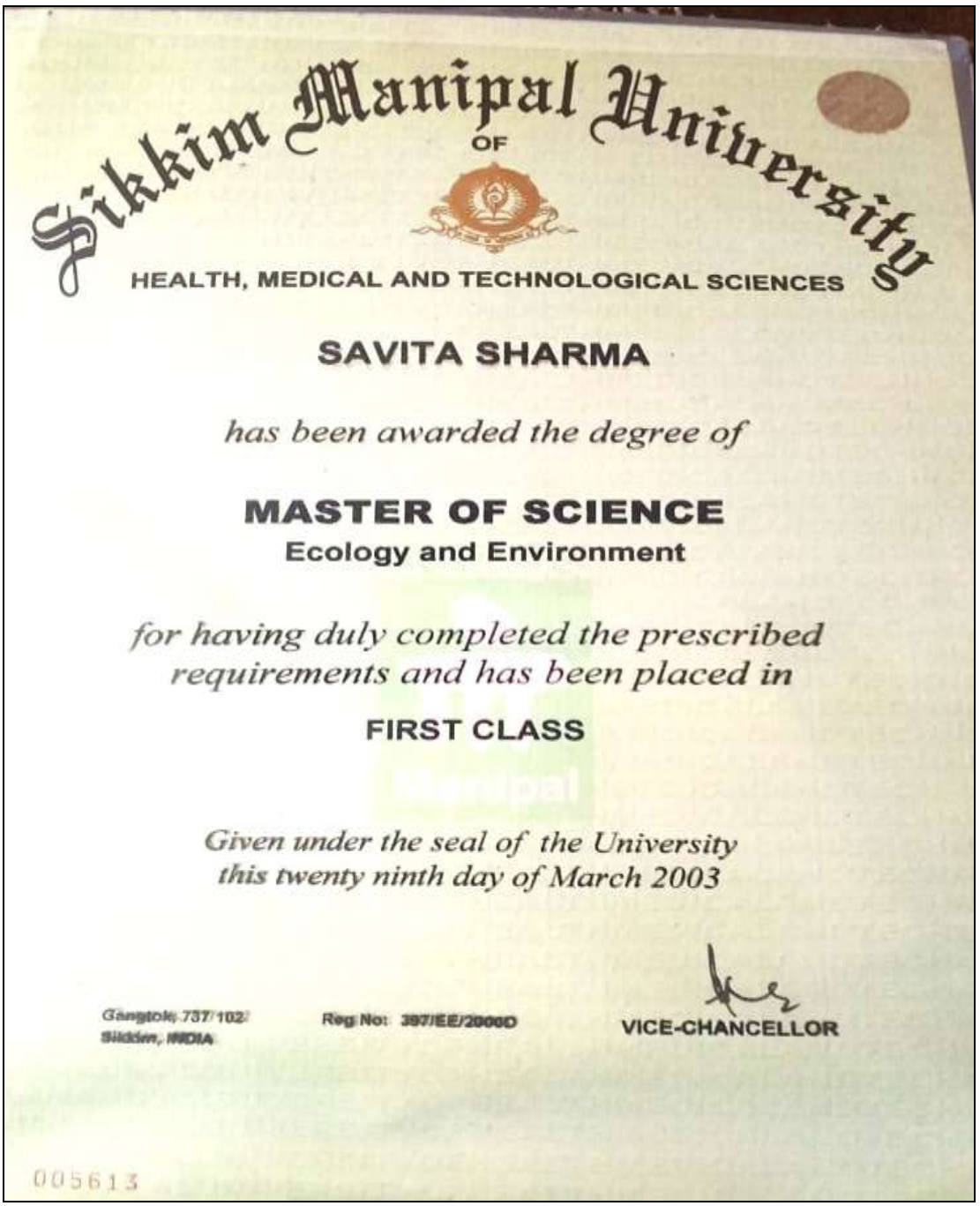
Given under the seal of the University

ਰਜਿਸਟਰਾਰ
Registrar
Jalandhar, 25/10/10

ਵਾਈਸ-ਚਾਂਸਲਰ
Vice-Chancellor

ਚਾਂਸਲਰ
Chancellor

i) Certificate of Ecology Environment



Sikkim Manipal University
OF
HEALTH, MEDICAL AND TECHNOLOGICAL SCIENCES

SAVITA SHARMA

has been awarded the degree of

MASTER OF SCIENCE
Ecology and Environment

for having duly completed the prescribed requirements and has been placed in

FIRST CLASS

Given under the seal of the University this twenty ninth day of March 2003

Gangtok 737 102
Sikkim, INDIA

Reg No: 397/EE/2000D

VICE-CHANCELLOR

005613

j) Award certificate

Government of Punjab
Department of New & Renewable Energy Sources

Award for Outstanding Contribution

Presented to

M/s. R.K Electricals & Energy Audit Services, Chandigarh
(Sector: Energy Auditing Agencies)
participated in the State Level Energy Conservation Award Competition organized by Punjab Energy Development Agency, Chandigarh (State Designated Agency-Punjab) and secured the
Second Position
under the category of
BEE Certified Energy Auditors & Energy Auditing Agencies
for their efforts made in the field of Energy Conservation during the last two years 2021-22 & 2022-23.

December 2023
Chandigarh

Dr. Amarpal Singh, IAS
Chief Executive Officer
Punjab Energy Development Agency

Annexure A (Green Campus Policy) of SBBS University, Jalandhar

SANT BABA BHAG SINGH
UNIVERSITY
Vill. Khiala, P.O. Padhiana, Distt. Jalandhar –144030 (PB.)
Recognized by UGC under Section 2(f) of UGC Act, 1956.
Website: www.sbbsuniversity.ac.in/Email:info@sbbsuniversity.ac.in
Call: 0181-2711163 / Fax: 0181-2711611

The Green Campus Policy

The Green Campus Policy of the Sant Baba Bhag Singh University envisions a clean and green campus where environmentally friendly practices and education combine to promote sustainability both on and beyond the campus. It also provides the University with an opportunity to take the lead in redefining its environmental culture by encouraging environmental ethics among students and staff.

Objective

- To create a sustainable, eco-friendly, and energy-efficient campus that fosters environmental stewardship among students, faculty, and staff.

Vision

- The university aims to promote sustainable development by integrating environmental, social, and economic considerations into its decision-making, operations, and educational programs. This policy is a commitment to reducing the ecological footprint of the university and inspiring a culture of environmental responsibility.

Key Areas of Focus

1) Energy Conservation:

- Transition to renewable energy sources such as solar or wind power where feasible.
- Implement energy-efficient lighting and appliances.
- Promote energy conservation through awareness campaigns and practices such as switching off unused electrical devices.

2) Waste Management:

1 of 3

- Implement a comprehensive waste segregation system (e.g., organic, recyclable, and non-recyclable).
- Promote the 3Rs: Reduce, Reuse, and Recycle.
- Discourage single-use plastics and encourage the use of biodegradable alternatives.
- Partner with waste management companies for proper recycling and disposal of e-waste and hazardous materials.

3) Water Conservation:

- Install rainwater harvesting systems and water recycling facilities.
- Regularly maintain and monitor plumbing to prevent leaks and water wastage.
- Promote water-saving practices among campus users.

4) Sustainable Transportation:

- Encourage the use of bicycles and electric vehicles.
- Enhance pedestrian pathways and restrict vehicular traffic in university campus.

5) Biodiversity and Green Spaces:

- Maintain and enhance the green cover on campus through tree plantation drives and landscaping.
- Establish biodiversity zones and gardens to protect native flora and fauna.
- Minimize the use of chemical fertilizers and pesticides.

6) Sustainable Procurement:

- Procure eco-friendly, energy-efficient, and sustainably sourced products.
- Encourage suppliers to adopt sustainable practices.

7) Environmental Education and Awareness:

- Incorporate sustainability topics into the curriculum and research programs.
- Conduct workshops, seminars, and campaigns to raise awareness about environmental issues.
- Celebrate eco-friendly events such as Earth Day, World Environment Day, and Energy Conservation Week.

Implementation and Monitoring

- The university will establish an Environment Sustainability & Management Cell comprising representatives from faculty, staff, and students to oversee the implementation of this policy.
- Periodic audits and assessments will be conducted to monitor progress and identify areas for improvement.
- Reports on sustainability initiatives and achievements will be shared with stakeholders annually.

Compliance and Accountability

- All members of the university community are expected to comply with the Green Campus Policy.
- Non-compliance will be addressed through appropriate measures, including awareness and corrective actions.

Policy Review

- This policy will be reviewed every three years to ensure its relevance, effectiveness, and alignment with evolving environmental standards and best practices.

Registrar
Sant Baba Bhag Singh University
Vill-Khiala, Jalandhar-144030

3 of 3

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