



Kristu Jayanti College

AUTONOMOUS **Bengaluru**

Reaccredited with 'A' Grade by NAAC | Affiliated to Bangalore University

DEPARTMENT OF LIFESCIENCES ENVIRONMENT CLUB

GREEN AUDIT (2018-2019)

Green auditing is the systemic assessing of environmental performance. Concern about environmental degradation and realization of values of environment are logical consequences of scholarly research, teaching and learning process. Current research shows that our renewable resources cannot support our energy consumption trend. Green audit helps us to make sure whether we are performing in accordance with relevant rules and regulations, to improve the procedures and ability of materials, to analyse the potential duties and to determine a way in which we can lower the cost and add to the revenue. Through green audit one gets a direction as to how to improve the environment. In its pursuit for improving environmental quality and to maintain a pristine environment for the future generation of students, Kristu Jayanti College has made a self-inquiry on environmental quality of the campus. Green audit and sustainable development process helps to reduce the wastage and associated cost as well as increases the product quality. The green audit also helps in assessing the total energy consumption thereby helps us to take up measures to save energy. The audit also gives us quantitative details about water management and waste management practised by the college. A series of methods was adopted by the students and staff coordinators of the Environment club, Department of Life Sciences to complete the audit. Green audit does not stop all compliance with legislation. Nor is it a 'green washing' public relations exercise. Rather it is a total strategic approach to the organisation's activities.

ACKNOWLEDGEMENT

We would like to thank our Principal, Rev.Fr. Josekutty P.D, Vice Principal, Rev.Fr.Augustine George, members of the management team, Dean of Sciences Dr. Calistus Jude, Head Department of Life Sciences, Dr. Elcey C D for their constant guidance and support to conduct this audit. We would like to sincerely thank the faculty members of all the departments, students, and nonteaching staff for their kind cooperation with us during this survey.

The Goals of Green Audit

- To improve the environment quality and to maintain a pristine environment for the future generation of students of Kristu Jayanti College.
- To adhere to the relevant rules and regulations.
- To analyse and assess the procedures adopted and to improve it.
- To suggest the best protocols for sustainable development.

Procedure followed

The students were divided into seven groups, and under the guidance of the staff coordinators of the Environment club, Department of Life Sciences, each group collected data on the assigned topics as follows:

1. Assessment of energy consumption and management
2. Assessment of water consumption and management
3. Assessment of landscape/ biodiversity in the campus
4. Assessment of air quality and waste management

All the data were compiled and documented with which the green audit was formulated.

Assessment of energy consumption and management

The college has adequate supply of power. Each department is equipped with computers, printers, tube lights, fans, LED bulbs and other necessary electrical equipments. The college has seven computer labs, one each of electronics lab, physics lab, media lab, biotechnology lab, microbiology lab, biochemistry lab, genetics lab, commerce lab and two psychology labs. The college also has a Bangalore University recognised Research Center for Biotechnology with bioinstrumentation facility. Majority of the class rooms are equipped with LCD projectors. All the rooms in the college are double ventilated and have ample number of windows to allow natural sunlight, thus reducing the usage of power. The main block and PG block are built in a sustainable manner using stone bricks for cooling effect, thereby reducing the consumption of energy. The two blocks has a central open quadrangle which allows cross ventilation and ample sunlight to all the class rooms. There is a music room and gymnasium with the necessary facilities. The equipments and instruments used in all the labs are in working condition and is periodically serviced and maintained by the respective lab in charges.

The monthly energy consumption of the college is 52380 KWH.

- The college is also equipped with a generator of power- 125 KVA and 200 KVA.
- The college is also equipped with 50 KW on-grid and 10 KW off-grid solar power plant out of which the off-grid is used to supply energy for cafeteria. These promote non-conventional sources of power management.
- For the year of 2017-2018 the average solar energy generated was 88 MWH.

The total energy usage of each block is formulated in the table below

Block	No. of tubes + bulbs	No. of fans	No. of LCD projectors	No. of AC	No. of computers
Main block	881	549	77	9	540
PG block	417	141	17	5	90

Energy management practices

- Environment club students are assigned to monitor and to give awareness regarding energy conservation.
- Solar energy is utilized as an alternate energy source.
- Regular servicing and maintenance of electrical equipments.

Assessment of water consumption and management

The college has round the clock water supply. College has many water outlets. The college has 2 washrooms in each floor in both main block and PG block. All taps are working properly with regular monitoring and repair of leaking taps. The monthly water consumption is 15 lakh litres. Each floor of the block also has one drinking water outlet, the filter of which is periodically maintained.

The total energy usage of each block is formulated in the table below

Block	No of taps	No of tanks x Capacity in litres	No of toilets	No of water purifiers
Main block	154	2x3000 1x2000 1x 100000	65	7
PG block	96	4x5000	42	5

Water management practises

- As a part of water management, the college is equipped with a 24 lakh liter water harvesting system which satiates all the water requirements of the college.
- The college has a tank of capacity 1 lakh twenty eight thousand liters which are operated by motors.
- There are 3 reverse osmosis plants; two of 250 liters and one of 500 liters capacity. 6000 liters of water is being purified every day and the waste water generated henceforth is being used for gardening and in the washrooms.
- Sewage water treatment capacity of 90000 liters is also established. The recycled water is used for gardening.

Assessment of landscape/ biodiversity in the campus

The college is spread in an area of **9.23 acres** and the total covered area is **112141.32 sq ft**. The college has assigned specific areas for the parking of cars and bikes. The Environment club of the Department of Life Sciences also maintains a medicinal garden which has exotic and endangered species of medicinal plants spread over an ample area. The college also has spacious grounds assigned for various sports like football, cricket, basketball, volleyball with well-manicured seating spaces meant for student relaxation. The college is divided into 2 blocks-the main block and the PG block. The college main block is situated in an area of **167916.84 sq ft**. The PG block is situated in an area of **88447sq ft**. The Administrative block is under construction.

Assessment of air quality and waste management

The college adopts a policy of segregating waste and carrying out its disposal by an efficient waste management system. The waste is segregated into wet waste, paper waste and plastic waste, which is possible by the trash bins that are placed in and around the entire campus. The trash bins are divided into specific colours, each colour represents a particular type of waste. The colours used are blue, green and red, and they represent paper waste, wet waste and plastic waste respectively. The college consists of a considerably large compost pit and the segregated wet wastes are dumped in that pit. The manure obtained from this process is used for the flora of the college.

Type of waste	Method of disposal
Plastic waste	Sold as scrap waste
Wet waste	Compost pit
Paper waste	ITC NGO

Assay of Air quality

Based on the data collected there are a total of around 3000 plants in the campus out of which 146 varieties of medicinal plants, 450 varieties of trees and 503 ornamental plants. The college being located in an urban area is exposed to a wide range of pollutants. On the day of the data collection there were 350 bikes, 65 cars and 15 cycles parked inside the campus. The college takes initiatives to reduce carbon monoxide pollution by promoting students to plant more trees and insists that all vehicles should possess the no emission certificate.

Green initiatives in Kristu Jayanti College

Kristu Jayanti College aims to create awareness on various environmental issues prevalent today. Environmental issues are to be solved with highest priority so that the future generations may find earth worth living. Kristu Jayanti College strives to make the students conscious of their environmental responsibilities and practice the principles of reduction, reuse and recycling of resources. We are committed to working locally to improve the social, economic and environmental wellbeing of our community which will leave us with a greener Earth.

Eco Friendly measures taken by the college:

- A well-established rainwater harvest system with a storage capacity of 24 lakh liters.
- Solar energy mediated power supply with generation of 56 KW solar power in the campus.
- The college has a non-core subject on Environmental Science offered by the Department of Life Sciences to the students of all the departments.
- All forms of paper waste from the college are recycled in association with NGOs.
- College serves as a green campus with a wide variety of plants in the college providing a pollution free atmosphere. Important medicinal plants and exotic flora are also labelled and well maintained in the college premises. Vegetation in the campus is identified and recorded.
- To utilize the findings of Laboratory Practical's, **lab to land** programme, is practiced using Bio fertilizers formulated in the Life Sciences laboratory which are applied in the nearby farm lands to enhance the soil fertility, quality and improve productivity.
- There are 3 reverse osmosis plants; two of 250 liters and one of 500 liters capacity. 6000 liters of water is being purified every day and the waste water generated henceforth is being used for gardening and in the washrooms.
- Swach Bharath, Gram Swach, Swach Bengaluru, Swach campus programmes are conducted in the campus and in nearby villages on a regular basis by the members of NSS, NCC, CSA, Environment club on a regular basis as part of extension activities.
- Awareness program on waste segregation was organized by the college.
- Regular awareness programmes are conducted in the form of orientation programmes by environmentalists, theme dances and skits, environment issue related competitions.
- Planting of saplings done on a regular basis under the banner Vanamahotsava in college premises and in the nearby villages.
- National level essay competition on environment issue related topics is conducted every year which paves way for students to come up with innovative ideas for protecting our environment.

Glimpses of campus



Entrance of Kristu Jayanti College



Main Block

PG Block



Ashram

Green initiatives in Kristu Jayanti College



Main block Quadrangle



Greenery between buildings



Commiphora wightii
Family: Burseraceae
Eng: Indian bdellium-tree



Medicinal Garden

Sewage Treatment Plant



Rainwater Harvesting

