

C.N.ARTS & B.D.COMMERCE COLLEGE, KADI
Established by the Kadi Hit Mandal which was later founded by Shri M P Shah
(M P Shah Education Society)

Green Audit Report

2021-2022



WCB Research Foundation

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effective learning and provides an effective learning environment. Educational institutions now a day are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly. To preserve the environment within the campus, various viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the energy savings, recycle of waste, water reduction, water harvesting etc. The activities pursued by colleges can also create a variety of adverse environmental impacts. Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. Green audit is defined as an official examination of the college which has effects on the environment and as a part of such practice, internal Green Audit is conducted to evaluate the actual scenario at the campus.

Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. Green auditing and the implementation of mitigation measures is a win-win situation for all the college, the learners and the planet. It provides staff and students better understanding of green impact on campus. Green auditing promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. 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 towards 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.

In C.N.Arts & B.D.Commerce College, Kadi campus the audit process involved initial interviews with management to clarify policies, activities, records and the co-operation of staff and students in the implementation of mitigation measures. This was followed by collection of data through the questionnaire, review of records, observation of practices and observable outcomes. In addition, the approach ensured that the management and staff are active participants in the green auditing process in the college.

The baseline data prepared for the C.N.Arts & B.D.Commerce College, Kadi will be a useful tool for campus greening, resource management, planning of future projects, and a document for implementation of sustainable development of the college. Existing data will allow the college to compare its programmes with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. We expect that the management will be committed to implement the green audit recommendations. We are happy to submit this green audit report to the C.N.Arts & B.D.Commerce College, Kadi authorities.

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CHAPTER 1

INTRODUCTION

VISION AND MISSION

- To evolve into a nucleus of learning, providing the student with their skill of entrepreneurship and communication and thus creating enlightened, energetic, dynamic ad dedicated youths through qualitative, value-based education and research.
- To offer need-based course at an affordable cost.
- To inculcate in the students the spirit of succeed by means of sincerity of purpose, perseverance and honesty and thus to inspire them to pursue their goals tirelessly tenaciously.
- To educate the student so as to help them meet challenges of life and live a life unhampered by the barriers of caste, community and creed.
- To impact higher education as a means for effecting the socio-economic development of the surrounding communities.
- To take steps towards bringing a value-added education within the reach of the learners by awarding communities.
- To create an academic atmosphere that encourages and supports innovation in the teaching and learning environment.

OBJECTIVES

To attain a very high level of academic excellence in teaching, learning and research by providing best opportunities, infrastructure and pleasant ambience to shape impressionable, young and vibrant minds dedicated to the welfare of society.

CAMPUS & COLLEGE BUILDING AREA

Table 1. Campus and college building area of C.N.Arts & B.D.Commerce College, Kadi

Campus area	07 acres
Built up area	3518 sq.mt

NAAC ACCREDITATION

Table 2. NAAC Accreditation of C.N.Arts & B.D.Commerce College, Kadi

NAAC accreditation cycle I	B Grade with 2.20 CGPA, 2010
NAAC accreditation cycle II	B Grade with 2.44 CGPA, 2016
AAA KCG	B++ Grade with 2.89 CGPA, 2016

C. N Arts and B D Commerce College, Kadi is affiliated to Hemchandracharya North Gujarat University. It is the only college in Kadi taluka imparting higher education in the commerce stream. The town Kadi has historical importance in the state of Gujarat. It was ruled by the Marathas and was considered an important place for commerce and business. The same spirit has made it a business hub even in the present time. It is one of the biggest markets for cotton produces and ceramic industries. Keeping in mind all these aspects, CN Arts and BD Commerce College was established by the Kadi Hit Mandal which was later funded by Shri M P Shah. Thus, with the generous donation of Shri M P Shah, the college became the first grant –in –aid institute in the whole North Gujarat region.

The college operates following certificate courses under College with Potential for Excellence (UGC XII plan) and B.Voc. (UGC New Delhi 2020) Certificate/ Diploma/ Advance Diploma/ Degree course.

Table 3. Certificate Courses Run by College during the year 2021-2022

College with Potential for Excellence (UGC XII plan) courses	Certificate Event Management
	Certificate in Taxation
	Certificate in Financial Management
	Certificate in Performing Arts
	Certificate in Basic and Advance Communication Skills
	Certificate in Corporate Communication
	Certificate in Logistic and Shipping
	DTP with Page Maker, Photoshop, Coeral Draw
	Basic Hardware and Networking Course
	Basic Computing Skill and Operating System
B.Voc. (UGC New Delhi 2020)	Entrepreneurship & Small Business Management
	Digital Marketing
	Banking & Insurance
	Logistic and Shipping Management

GENDER AUDIT

The college operates at under graduate and post graduate level keeping in mind goals and objectives that is to make the students employable through holistic education and skill development. With the necessary facilities such as good governance, best education and infrastructure along with young and energetic staff, the number of students increases every year. The entire staff vigorously endeavors to inculcate basic virtues like sincerity, discipline, devotion, truthfulness, determination, and patriotic feelings among the learners.

College promotes equal opportunities for all students. College CWDC regularly organizes programs for Women Empowerment, Women’s issues, their Rights, Women’s Education and career. Apart from these, college has courses exclusively for women like Tailoring, Beauty care etc. College comprises sexual harassment committee and anti-ragging committee where they can register their grievances. College also organizes counseling programs for female students and sometimes their parents are also called to help them in some cases to insure the students’ safety and good academic progress. As a result, college possesses good number of female students. The college has almost more female students than male students and total 1854 students are studying in the college during the academic year 2021 -2022 which is graphically presented in below diagram.

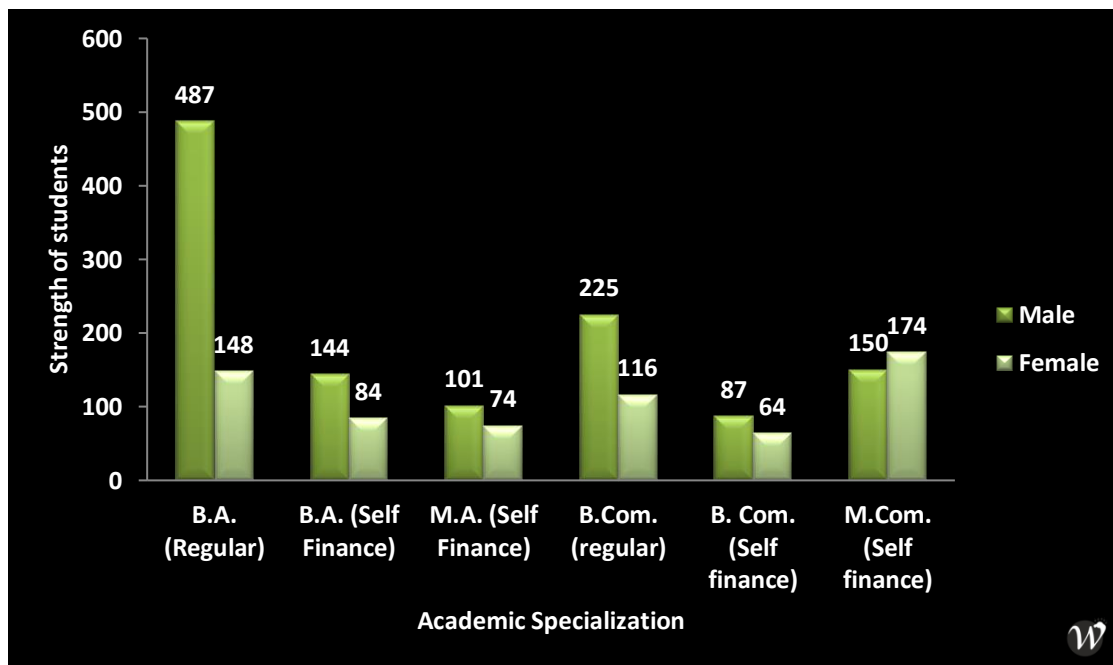


Figure 1. Strength of students vs. academic specialization during 2021-2022

TEACHING LEARNING AND EVALUATION

The college has students from rural and semi-urban area. College organizes English enrichment program by Education department which includes life skills and spoken English. Teachers use ICT tools like overhead projectors for presentation. Some of the faculties have also created their YouTube channels. Due to covid-19 situation, classroom lectures were not possible. Use of ICT and Smartphone to teach students online through various platforms like Microsoft Teams, Google Meet, Teachers' Educational Videos on YouTube. Out of 11 teachers 06 teachers are Doctorates and 04 are Ph.D. supervisors. Classrooms are well equipped, 13 podiums and 10 OHP and visualizers are available in the college. Facility for the teaching and learning process in the staffroom includes internet facility, LCD Projector, laptop, CDs. Students are encouraged to attend SANDHAN, alive teaching programme of the State Government.

RESEARCH, INNOVATIONS AND EXTENSION

The institution is promoting research and consultancy throughout the year. The college has local research committee comprising of 6 members from various subjects under the coordinators. The college has necessary research related books and journals. Along with the principal, 4 faculties are recognized as Ph.D. guides. Ramp facility and priority in book issue is provided to physically challenged students. Besides, most of the faculty members have been published their research books.

SEMINAR OR WORKSHOP CONDUCTED DURING 2021-2022

Table 4. Seminar or workshop conducted during the year 2021-2022

Name of Expert Lecture	Resource Person	Date	Organizer/Department
Employability and Communication Skills in 21 st Century	Dr. Paresh B. Joshi	27/04/21	English
Effect of Covid 19 on Higher Education	Dr. Atum Machapatra	23/07/21	Commerce
Cooperative Training	Mehasana Cooperative Section	12/07/21-17/07/21	Economics
New Curriculum	Dr, Rohit Desai	28/07/21	Economics
ICT in Education	Dr. Sanjay Shah	21/09/21	All Department
NET/SET Workshop	Dr. Ronak Parmar	16/03/20	All Department

CURRICULAR ASPECTS**Table 5. Curricular activities conducted during the year 2021-2022**

COLLEGE ACTIVITIES	NSS
	NCC
	SCOPE CENTER
	ANTI RAGGING CELL
	CWDC
	SPORTS
	LIBRARY ACTIVITIES
	CULTURAL ACTIVITIES
	CAREER COUNSELING CELL
	COMPETITIVE EXAMINATION GUIDANCE CELL
CONSTRUCTIVE ACTIVITIES	RASHTRIYA SEVA YOJANA
	SAMUDAYIK SEVA DHARA
	YUVA KALYAN
	ENVIRONMENT AND DISASTER MANAGEMENT EDUCATION
SAPTDHARA	GYANDHARA
	SARJANATMAK ABHIVYAKTI DHARA
	RANG KALA KAUSHAL DHARA
	GIT SANGIT NRUTYA DHARA
	NATYA DHARA

STUDENTS SUPPORT AND PROGRESSION

- 01 students qualifying in state level examination during the year of 2021-2022.
- Total 10 students enrolled into higher education. Among this, 02 students enrolled into abroad studies and other students enrolled into further studies in the Gujarat state only.
- Due to Covid-19 situation awards ceremony was not organized in the college during the 2021-2022.

- College has Career Counseling Cell, Grievance Redressal cell, NSS Committee, NCC committee, IQAC committee, Saptadhara committee; under which there are various seven committees were formed such as Knowledge committee, Social service committee, Music-dance committee, Yoga sports committee, Arts-skill committee, Drama committee, Creative expression committee.

OBSERVATIONS OF DIFFERENT DAYS DURING 2021-2022

Table 6. Day celebrations held in the college during 2021-2022

No.	Events	Beneficiary
1	Covid -19 awareness painting	To create Covid -19 awareness
2	Save environment painting	To Environment awareness
3	'Atma-Nirbhar Bharat' planning	To awareness
4	Tree Plantation at home and village	To create Environment awareness
5	Relay Run under fit India movement	To health awareness
6	Online yoga day celebrated	To health awareness
7	Online voter list correction programme	For social media awareness
8	Birth Anniversary of Subhash Chandra Bose, Dr. Babasaheb Ambedkar, Dr. Sarvapalli Radhakrishnan (teachers' day), Swami Vivekananda (youth day)	To encourage students from life and work these great personalities
9	Nation voter day was celebrated at district level	For social media awareness
10	Volunteers served in 'Pules Polio' vaccination	To make society Polio free
11	72 nd Republic Day	Celebrated with great gratification
12	Gandhi Jayanti, Vivekananda Jayanti, Sardar Patel Jayanti, Uma Shankar Jayanti, Panna Lal Jayanti	To inculcate patriotism, struggle for truth, literary sense, culture and heritage of country to students
13	Kargill day	To commemorates victory and tribute to martyrs
14	Voter's day	Students of 18 years and above fill the form for voter card.
15	World photography Day	Water harvesting campaign

NUMBER OF FUNCTIONAL MOUS WITH INSTITUTIONS, INDUSTRIES, ETC. DURING THE YEAR 2020-2022

Table 7. Number of functional MOUs with institutions, industries, etc. during 2020-2022

Organization with which MoU is signed	Duration	Activities under each MOU
All Gujarat Women Organization, 'Shaktimanach', Ahmedabad -	1/7/2020 to 30/6/2025	Beauty care, chocolate making & cake making
HI-TECH Computer, Khedbhrahma	25/6/2020	CCC PRIMARY TRAINING

SCHOLARSHIPS AND CAPABILITY ENHANCEMENT SCHEME

Table 8. Scholarships scheme achieved during 2020-2022. Total 595 students are benefitted by scholarships, free ships etc. provided by the institution/ non-government agencies in the last five years.

Name of the scheme	Number of students benefitted	Amount in Rupees
BCK 6.1	158	2520000/-
BCK 5		
BCK 81	346	
BCK 78		
BCK 81A	13	
BCK 137		
BCK 138		
HANDICAFE	3	
NSP(MINORITY)	58	
DR AMBEDKAR SKIM	14	
AMBRELLA	3	
VKY		

GOVERNANCE, LEADERSHIP AND MANAGEMENT

- The Management is always co-operative with overall administration of the college which is implemented through the principal and faculty members.
- The management provides excellent infrastructural facilities to faculty and students to progress and development of the college.
- The president including management committee calls the meeting from time to time and discusses the feedback from the students and stakeholders.
- The management sponsors the faculty to participate in national and international gatherings.
- The year 2021-22 is a year of Corona Pandemic. Lock- Down, Work from Home, Work from campus but students are not allowed in the classrooms is the scenario during the year.
- Self-appraisal and academic performance of the staff members is also carried out every year and maintained.

INNOVATIONS AND BEST PRACTICES

- During Covid – 19 pandemic, SOP guideline is implemented. Students are allowed with mask. Use of sanitizer is compulsory in the campus.
- Women cell is formed for Girl students of college, in which two women teachers of college are included. One Girl Student representative is also a member of this cell. This cell provides counseling to girls about girls' physical problems, harassment and other issues.
- Students Served as Corona Warriors to serve society during Covid-19 Pandemic through students and volunteers.
- NCC Girl cadets for Mask making to serve people and protect form infection of Covid- 19. The girl –cadets worked for one week and prepared 1500 Masks. Masks were donated to The Collector, Kadi district.
- Three NSS volunteers served with local Health Department, Kadi in Vaccination programme. On the request of local Health Department, three NSS volunteers readily joined and served.
- 6 NCC boy cadets voluntarily and with the consent of their parents joined and served with Police Department. They followed the instructions of the Police office and strictly worked accordingly. These way NCC boy cadets worked as Corona Warriors.

INNOVATIONS AND BEST PRACTICES**Table 9. Some major innovations and best practices of college**

Sr. No.	BEST PRACTICES
1	RAMP FOR DISABLE
2	SCRIBE IN EXAMINATION
3	SEPARATE SEATING ARRANGMENT IN EXAMINATION
4	HUMAN ASSISTANCE ON DEMAND
5	SCHOLARSHIP BY GOVERNMENT
6	NEEDY STUDENTS' BOOK BANK SCHEME
7	BOOKS AVAILABLE ON ADULT TICKETS
8	SPRING FEST 2022
9	RAINBOW LITERARY CLUB
10	FREE MEDICAL CAMP FOR STUDENTS

CAMPUS INFRASTRUCTURE**ADMINISTRATIVE ROOM**

The administrative room is well- equipped with 7 computers, 2 printers, internet connection, and a photo – copy machine.

AUDITORIUM

An auditorium is air conditioned with 280 seating capacity to enhance the quality of education. It has giant screen for projector with Dolby sound system.

CLASS ROOM AND STAFF ROOM

College has 01 staffroom for the faculty members and 26 classrooms well equipped with CCTV cameras and overhead projectors to enhance the students 'skill as systematically. Two classrooms are heaving smart boards.

CULTURAL HALL OR SEMINAR HALL

A cultural hall or seminar hall is provided to students for showcasing their talents. The cultural activities enhance the confidence level of the students thereby allowing them to perform better.

COMPUTER LAB (LANGUAGE LAB)

The institution has one computer lab with 35 sets of computers along with antivirus system which facilitates the students to fine tune their communication skills.

PSYCHOLOGY LABORATORY

Psychological laboratories are equipped for two purposes. Firstly, for the recording of behavior and for the monitoring of mental and emotional states; secondly, for the systematic control of environmental and individual factors which determine human mental and emotional states.

SPORTS ROOM AND BADMINTON COURT

Various sports programme such as Kabbaddi, Kho-Kho, Volley Ball, Hand ball, 200 meter track etc. outdoor sports activities are made available for students. Indoor games facility for Chess, Carom and Yoga also available for students.

NSS ROOM

The sole aim of the NSS is to provide hands on experience to young students in delivering community service.

NCC ROOM

The aim of the NCC room is to developing character, comradeship, discipline, a secular outlook, the spirit of adventure and ideals of selfless service amongst young students.

IQAC ROOM

A separate IQAC room is also available in the college. This room facilitates with computer sets and necessary furniture like tables, chairs, and iron vaults.

GIRLS ROOM

A spacious room is available in the college which comprises of a cot to rest in case of an emergency and other necessary requirements for the girls.

GYM ROOM

The physical fitness room is available with all latest equipments in the college specifically designated for exercise, fitness training, and physical wellness activities to the students.

PRINCIPAL ROOM

There is a principal room to maintain of permanent records of students and has internet connections (bandwith 30-50 MBPS) with Wi-Fi Facilities.

GARDEN

The college has ample garden area at the entrance of the college which includes around 158 plants with 23 of different varieties of trees. Moreover, college building area comprises garden at the front side, middle side and at the back side. For the protection the college has built a

wall. Garden also comprises some medical and important plants with their red conservation aspect. College garden is day to day maintained by Mr. Arvindbhai.

LIBRARY

College library has OHP, internet broadband plan and WIFI of 50 mbps speed. Additionally, college library is fully computerized with INFLIBNET facility and has a collection of 2827 textbooks and a subscription of about 6000 E-journals (table 7). The library is semi-automated through software SOUL 2.0; barcode system for book search has been devised and regularly updated. Library has special corner for books on competitive examination like GPSC, UPSC, NET, and SET.

Table 10. Library services provides to students during 2021-2022

Library Service	Existing	Newly Added	Total
Text Books	2529	298	2827
Reference Books	9666	26	9692
Journals	Nil	26	26
CD & Video	75	Nil	75
E-Journals	6000	Nil	6000

CHAPTER 2 PRE-AUDIT STAGE

SCOPE AND GOALS OF GREEN AUDITING

A clean and healthy environment aids in effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues. Green Audit is the most efficient and ecological way to manage environmental problems. Green audit means assessing environmental performance. It is a systematic, documented, periodic, and objective review by regulated entities of facility operations and practices related to meeting environmental requirements. It is otherwise the systematic examination of the interactions between any operation and its surroundings. This includes all emissions to air; land and water; legal constraints; the effects on the neighboring community; landscape and ecology; the public's perception of the operating company in the local area. Green audit does not stop all compliance with legislation. Nor it is a 'green washing' public relations exercise. Rather it is a total strategic approach to the organization's activities. It is a kind of professional care which is the responsibility of each individual who is the part of economic, financial, social, environmental factor. It is necessary to conduct green audit in college campus because students become aware of the green audit, its advantages to save the planet and they become good citizen of our country. In accordance with the evaluation plan of C.N.Arts & B.D.Commerce College, Kadi for 2021-22, the Green Audit of the college conducted in October 2021.

A very simple indigenized system has been devised to monitor the environmental performance of C.N.Arts & B.D.Commerce College, Kadi. It comes with a series of questions to be answered on a regular basis. This innovative scheme is user friendly and totally voluntary. The aim of this is to help the institution to set environmental examples for the community, and to educate the young learners. Thus Green audit becomes necessary at the college level.

BENEFITS OF GREEN AUDITING

- More efficient resource management
- To provide basis for improved sustainability
- To create green campus
- To enable waste management through reduction of waste generation, solid and liquid waste and water recycling
- To create plastic free campus and evolve health consciousness
- Point out the prevailing and forth coming complications
- Authenticate conformity with the implemented laws
- Enhance the alertness for environmental guidelines and duties
- Impart environmental education through systematic environmental management approach

and improving environmental standards

- Benchmarking for environmental protection initiatives
- Financial savings through a reduction in resource use
- Development of ownership, personal and social responsibility for the college and its environment
- Enhancement of college profile
- Developing an environmental ethic and value systems in youngsters
- Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the college
- Developing the organization's environmental strategy: Enabling management to develop its environmental strategy for moving towards a greener corporate and performance culture.

TARGET AREAS OF GREEN AUDITING

Green audit forms part of a resource management process. Although they are individual events, the real value of green audits is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or changeover time. Eco-campus concept mainly focuses on the efficient use of energy and water, to minimize waste generation or pollution and also economic efficiency. All these indicators are assessed in process of green auditing of educational institute. Eco-campus focuses on the reduction of contribution to emissions, procures a cost effective and secure supply of energy, encourages and enhances energy use conservation, promotes personal action, reduce the institute's energy and water consumption, reduce wastes to landfill, and integrate environmental considerations into all contracts and services considered to have significant environmental impacts. Target areas included in this green auditing are water, energy, waste, green campus and carbon footprint.

A) AUDITING FOR WATER MANAGEMENT

Water is a natural resource; all living matters depend on water. While freely available in many natural environments, in human settlements potable water is less readily available. We need to use water wisely to ensure that drinkable water is available for all, now and in the future. A small drip from a leaky tap can waste more than 180 liters of water to a day; that is a lot of water to waste -enough to flush the toilet eight times. Aquifer depletion and water contamination are taking place at unprecedented rates. It is therefore essential that any environmentally responsible institution should examine its water use practices. Water auditing is conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and reuse. The concerned audit or investigates the relevant method that can be adopted and implemented to balance the demand and supply of water. It is therefore essential that any environmentally responsible institution examine its water use practices.

B) AUDITING FOR ENERGY MANAGEMENT

Energy cannot be seen, but we know it is there because we can see its effects in the forms of heat, light and power. This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. Energy auditing deals with the conservation and methods to reduce its consumption related to environmental degradation. It is therefore essential that any environmentally responsible institution examine its energy use practices.

C) AUDITING FOR WASTE MANAGEMENT

Pollution from waste is aesthetically unpleasing and results in large amounts of litter in our communities which can cause health problems. Plastic bags and discarded ropes and strings can be very dangerous to birds and other animals. This indicator addresses waste production and disposal, plastic waste, paper waste, food waste, and recycling. Solid waste can be divided into two categories: general waste and hazardous waste. General wastes include what is usually thrown away in homes and schools such as garbage, paper, tins and glass bottles. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals and petrol. Unscientific landfills may contain harmful contaminants that leach into soil and water supplies, and produce green house gases contributing to global climate change. Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service through recycling, repair, and reuse. Thus the minimization of solid waste is essential to a sustainable college. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems. It is therefore essential that any environmentally responsible institution examine its waste processing practices.

D) AUDITING FOR GREEN CAMPUS MANAGEMENT

Unfortunately, biodiversity is facing serious threats from habitat loss, pollution, over consumption and invasive species. Species are disappearing at an alarming rate and each loss affects nature's delicate balance and our quality of life. Without this variability in the living world, ecological systems and functions would break down, with detrimental consequences for all forms of life. Newly planted and existing trees decrease the amount of carbon dioxide in the atmosphere. Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. In one year, a single mature tree will absorb up to 48 pounds (4.535×10^{-3} tones) of carbon dioxide from the atmosphere, and release it as oxygen. The amount of oxygen that a single tree produces is enough to provide one day's supply of oxygen for people. So while you are busy studying and working on earning those good grades, all the trees on campus are also working hard to make the air cleaner for us. Trees can impact one mental health as well; studies have shown that trees greatly reduce stress, which a huge deal is considering many students are under some amount of stress.

E) AUDITING FOR CARBON FOOTPRINT

Usage of fossil fuel-based vehicles impacts on the environment through the emission of greenhouse gases into the atmosphere. The most common greenhouse gases are carbon dioxide, water vapor, methane, nitrous oxide and ozone. Of all the green house gases, carbon dioxide is the most prominent greenhouse gas, comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions. An important aspect of doing an audit is to be able to measure the impact so that one can determine better ways to manage the impact. In addition to the audits of water, waste, energy and biodiversity aids to determine what our carbon footprint is, based on the amount of carbon emissions created. It is necessary to know how much the organization is contributing towards sustainable development. It is therefore essential that any environmentally responsible institution examine its carbon footprint.

METHODOLOGY OF GREEN AUDITING

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the document, interviewing responsible persons and data analysis, measurements and recommendations. The methodology adopted for this audit was a three step process comprising of: A) Data collection B) Data analysis and recommendation

A) DATACOLLECTION

In preliminary data collection phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements. Following steps were taken for data collection:

- The team went to each department, centers, library, canteen etc.
- Data about the general information was collected by observation and interview.
- The power consumption of appliances was recorded by taking an average value in some cases.

B) DATA ANALYSIS AND RECOMMENDATION

On the basis of results of data analysis and observations, some steps for reducing power and water consumption were recommended. Proper treatments for waste were also suggested. Use of fossil fuels has to be reduced for the sake of community health. The above target areas particular to the college was evaluated through questionnaire for data collection. Five categories of questionnaires were distributed which was given in survey forms. The formats of the same are given below.

SURVEY FORM FOR GREEN AUDIT**A) AUDITING FOR WATER MANAGEMENT**

1. List uses of water in your college.
2. What are the sources of water in your college?
3. How does your college store water?
4. If there is water wastage, specify why.
5. How can the wastage be prevented / stopped?
6. Write down the ways that could reduce the amount of water used in your college.
7. Record water use from the college water meter for six months.
8. No. of water coolers?
9. No. of bath rooms in staff rooms, common, hostels?
10. No. of toilet, urinals?
11. Does your college harvest rain water?
12. How many water fountains are there?
13. How many water fountains are leaky?
14. Is drip irrigation used to water plants outside? YES/NO
15. How often is the garden watered?
16. Is there any water management plan in the college?
17. Are there any water saving techniques followed in your college? What are they?

B) AUDITING FOR ENERGY MANAGEMENT

1. List ways that you use energy in your college. (Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others)
2. Electricity bill amount for the last year
3. How many times LPG cylinders are used/filled in a year?
4. How many LED bulbs are used in your college?
5. How many tube lights are used in your college?
6. How many fans are installed in your college?
7. How many air conditioners are installed in your college?
8. How many computers are there in your college?
9. Energy used by each inverter per month? (kwh)
10. How many generators are there in your college?
11. No of TV in your college?
12. How many R.O. are there in your college?
13. How many coolers are there in your college?
14. How many UPS are there in your college?
15. How many printers are there in your college?
16. How many Xerox machine are there in your college?
17. How many CCTV cameras are there in your college?
18. How many rooms are there in your college?

19. Do you run “switch off” drills at college?
20. Are your computers and other equipment put on power-saving mode?
21. What are the energy conservation methods adapted by your college?
22. Any alternative energy sources/non-conventional energy sources are installed?
23. Calculation of energy for electrical appliances.

C) AUDITING FOR WASTE MANAGEMENT

1. Which of the following are found near your college?
Municipal dump yard, Garbage heap, Public convenience, Sewer line, stagnant water, Open drainage, Industry, Bus / Railway station, Market / Shopping complex, Residency.
2. Does your college generate any waste?
E-waste, Hazardous waste (toxic), Solid waste, Dry leaves, Canteen waste, Liquid waste, Glass, Unused equipment, Medical waste if any, Napkins, Others (Specify)
3. Is there any waste treatment system in the college?
4. Whether waste is polluting the ground/surface/air of the college?
5. How is the waste generated in the college managed?
6. Can you achieve zero garbage in your college?
7. What is the approximate quantity of waste generated per day (in kilograms)?
8. What are the facilities available in the college campus?

D) AUDITING FOR GREEN CAMPUS MANAGEMENT

1. Is there any garden in your college?
2. Do students spend time in the garden?
3. List the plants in the garden, with approx. numbers.
4. Is there any vegetable garden in your college?
5. Is there any medicinal garden in your college?
6. Which are the vegetables cultivated in your garden?
7. Who is in charge of gardens in your college?
8. Do you have any composting pit in your college? If yes, what are you doing with thecompost generated?
9. Is there any botanical garden in your campus? If yes give details of campus flora.
10. Give the number and names of the medicinal plants in your college campus.
11. Is there any nature awareness programme conducted in the campus? If yes, mention year.

E) AUDITING FOR CARBON FOOTPRINT

1. Total Number of vehicles used by the students of the college.
2. Number of parent-teacher meetings in a year?
3. Number of generators used per day (hours).
4. Suggest the methods to reduce the quantity of use of fuel used by the students/ teacher-nonteaching staff of the college.
5. Mention the usage of cycles, two wheelers, cars, common transportation and visitors' vehicles per day.

CHAPTER 3

POST AUDIT STAGE

The base of any green audit is that its findings are supported by documents and verifiable information. The audit process seeks, on a sampled basis, to track past actions, activities, events, and procedures to ensure that they are carried out according to systems requirements and in the correct manner. Green audits form a part of a process. Although they are individual events, the real value of green audits is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Although green audits are carried out using policies, procedures, documented systems and objectives as a test, there is always an element of subjectivity in an audit. The essence of any green audit is to find out how well the environmental management and environmental equipment are performing. Each of these components is crucial in ensuring that the campus environmental performance meets the goals set in its green policy. The individual functioning and the success of integration will all play a role in the degree of success or failure of the campus environmental performance.

KEY FINDINGS AND OBSERVATIONS

A) WATER

1. Main water uses in the campus: gardening, toilet, cleaning, drinking, washing and office uses.
2. Separate bore is made for water resource in the campus.
3. College store water through O2water tanks.
4. Water wastage mainly during urinals and toilets.
5. Water wastage can be prevented by wisely flush in toilets.
6. Reduce the usage of water is foremost way to reduce amount of water used in college.
7. College does not have chemical laboratories.
8. College has no agriculture field.
9. College campus doesn't have hostel.
10. There is no water meter box in the college.
11. Water management plan: bore well (figure:3)
12. Number of water coolers: 01 and approximately 1200 L water used per day.
13. Number of bathrooms: 07 and approximately 500 L water used per day.
14. Number of toilets and urinals: 03 and approximately 1000 L water used per day.
15. Number of water fountains: none
16. Number of water taps: 20 and approximately 400 L water used per day.



Figure 3. Bore well system in the college campus

17. Every alternate day the gardens are watered and approximately 50L water used for garden purpose.
18. No water treatment system in place.
19. Leaky taps; waterless toilets; water fountain: None
20. There are signs reminding people to turn off the water.
21. Drip irrigation system used for watering the plants in garden.
22. Rain water harvesting technique will be adopted which can save more water in the college.
23. Are there any water saving techniques followed in your college? : Used adequately and maintained.
24. Please share Some IDEA for how your college could save more water: By creating awareness in students and staff regarding water wastage and control.
25. Approx. 465 L water use per day in the college which is detailed in below table 11.

Table 11. Overall utilization of water in the college

Sections	Water Use/ Day (L)
Urinals and toilets	300
Garden	50
Bathrooms	15
Water cooler	100
Total	465

B) ENERGY

1. College uses diesel in generator and electricity for LED bulb, computer, Xerox machine, printer, and submersible water pump.
2. Electricity amount for the year is Rs. 52116/-
3. Inverter is available in college.
4. LPG cylinders and heaters are not available in the college.
5. CFL bulbs installed in the college: None
6. Number of street lights available in the college: 5.
7. Alternative source of energy like solar energy adopted by the college as energy conservation.
8. Following table shows calculation of energy for major electrical appliances used in college campus.

Table 12. Calculation of energy for electrical appliances used in college campus

Name of Appliances	No. of appliances	Power consumption (watt)	Power consumption (KW=W/1000)	Usage/day(hours)	Average kWh /day	Average kWh /month
Fan	125	14	1.75	05	8.75	262.5
LED bulb	31	11	0.341	0	0	0
Tube light	98	25	2.45	05	12.25	367.5
Computer	67	60	4.02	05	20.1	603
Printer	06	30	0.18	05	0.9	27
Cooler	01	125	0.125	05	0.625	18.75
Photocopy machine	02	83	0.166	03	0.498	14.94
CCTV camera	10	02	0.02	05	0.1	3
UPS	01	800	0.8	05	4	120
TV	02	60	0.12	03	0.36	10.8
Projector	10	50	0.5	02	1	30
Generator	01	800	0.8	0.05	0.04	1.2
Speaker	04	200	0.8	02	1.6	48
A.C.	28	1000	28	02	56	1680
Total	218	3260	710.68	45	31980.6	959418

9. Following figure shows average of energy for major electrical appliances used in college campus.

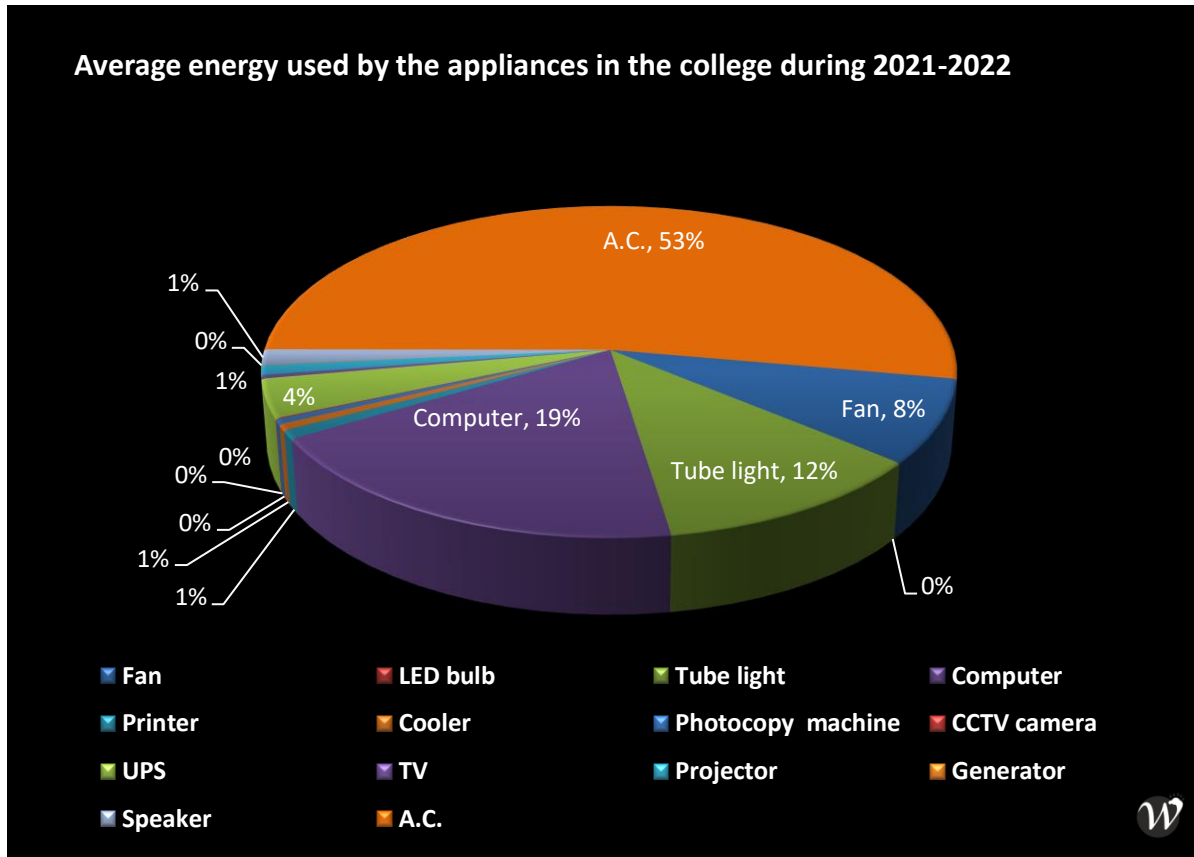


Figure 4. Average energy of major electrical appliances used in the college during 2021-2022.

C) WASTE

1. Public convenience and sewer linear near from the college campus area.
2. College generates solid wastes, dry leaves and some liquid wastes.
3. Different wastes such as dry wastes (solid portion of material such as glass bottles, crockeries, plastic containers, metals and radioactive wastes, etc.) and liquid wastes (medical wastes, sanitary wastes, etc.) collected in different dustbins (figure. 5)
4. Dry wastes such as garden wastes dumped in the composting pit to produce compost and other wastes are regularly collected by Kadi municipal trucks. So, college achieves zero garbage.
5. Electronic waste is generated in negligible amount.
6. Other wastes such as hazardous chemicals and radioactive waste does not generate as this institution conducting Arts and Commerce branch only.
7. College spreads the message of recycling and waste wealth programmes such as rallies, drawing competition, are organized on cleanliness theme to others in the community through celebration of cleanliness drive and hoardings activities done by NSS and NCC students the college (annexure 1).
8. Reduce, Recycle, Reuse and refuse are some ways to achieve zero garbage in the college and the college is trying to accomplish to fulfill these things.
9. Following facilities are available in the college campus



Figure 5. Solid and liquid waste dustbins

Table 14. Facilities available in the college campus

Facility	Number of facility	Facility	Number of facility
Garden area	03	Canteen	01
Playground area	01	Parking area	03
Kitchen	--	Classrooms	26
Toilets	03	Office room	01
Garbage dump	01	Library	01
Language lab	01	Auditorium	01
Psychology lab	01	Boys and Girls hostel	--

10. Following table shows total strength in the college during 2021-2022.

Table 13. Total strength in the college during 2021-2022

Students	No. of students	No. of teachers	No. non teaching staff
Male	1194	13	10
Female	660	06	02
Total	1854	19	12

11. Approximate office waste generated per day (in kilograms):

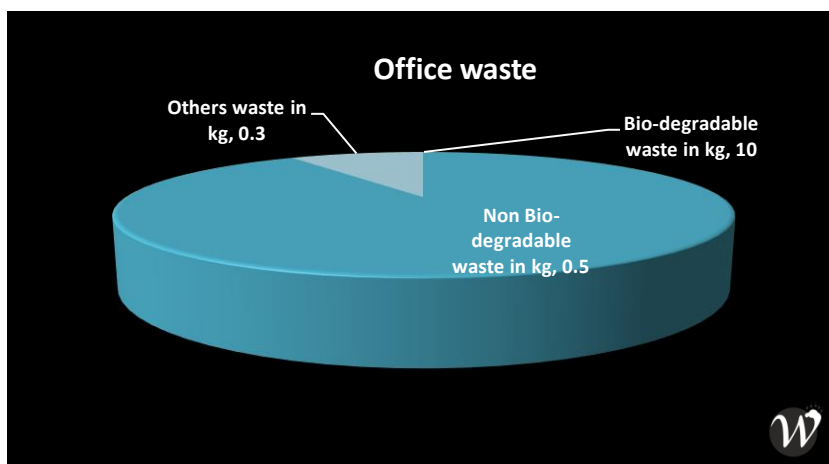


Figure 6. Approximate office waste generated per day during 2021-2022

12. Different types of waste generated in the college and their disposal.

Table 15. Different types of waste collected in and their disposal method

Types of waste	Particulars	Disposal method
E-Wastes	Computers, electrical and electronic parts	Keep separate in store room
Plastic wastes	Plastic wastes as Refill, Plastic water bottles, etc.	Negligible amount generate
Solid wastes	Damaged furniture, paper waste, paper plates, etc.	Solid wastes' dustbin and sent to Nagarpalica
Liquid wastes	Medical waste and sanitary wastes	Liquid wastes' dustbin and sent to Nagarpalica
Wastewater	Washing, urinals, bathrooms	Drainage

D) GREEN CAMPUS

1. Campus landscaping with total 158 plants (figure 8). Among these plants, there are 23 tall tree species, 09 botanical plants and 17 ornamental garden plants are identified (table 17 & 18) which have different usages such as social forestry, agriculture, medicinal, and timber yielding plants (figure 7).
2. College garden is maintained by Mr. Arvind.
3. College campus harbors many medicinal and ornamental tree species (table 17&18).
4. College has drip irrigation system to nourish the plants of garden.
5. There are total 05 small gardens full-fledged in approximately 120.00sq.mt area in the college building.
6. Students spend time in the garden.
7. Proper care is taken to maintain trees, plants and garden.
8. Plantation activity done by college campus which is enclosed in annexure 6.
9. The College has a vermin-composting unit. Dry leaves waste from the garden are collected and are placed in the vermin composting unit.
10. Composting pit is placed in the garden of the college and generated compost then used as manure in the garden of campus.
11. 15 least concern, 01 endangered, 06 not extinct tree species are identified in the college campus (table 16).
12. College actively organized green initiatives which are listed below.

➤ DEPLOYMENT OF SOLAR ARRAYS (11/12/2019)

As a renewable source of power, solar arrays (solar panel) installed in college with the capacity of 10 KV on the date of 11/12/19 as solar energy has an important role in reducing greenhouse gas emissions and mitigating climate change, which is critical to protecting humans, wildlife, and ecosystems (annexure 2). Solar energy can also improve air quality and reduce water use from energy production.

➤ SWACHHATA ABHIYAN (26/08/2022)

College organized Swachhata Bharat Abhiyan and developed a committee which plays a significant role in the campus premises, to make campus neat, clean and dust free(annexure 3).The programme includes elimination of open defecation, conversion of unsanitary toilets to pour flush toilets, eradication of manual scavenging, municipal solid waste management and bringing about a behavioral change in people regarding healthy sanitation practices.

➤ ROAD AWARENESS (22/12/21)

Road safety is of prime importance as road accidents are among the biggest causes of deaths in the country. With the number of vehicles on our roads increasing with every passing hour, it's of vital importance for everyone to have traffic awareness and understand and respect all the road safety rules in India.

➤ **GOVERNMENT SUBSIDY TO STUDENTS FOR ELECTRIC VEHICLES**

The National Electric Vehicle Infrastructure (NEVI) program provides fund to states to build out charging infrastructure along highway corridors – filling gaps in rural, disadvantaged, and hard-to-reach locations while instilling public confidence in charging.

➤ **NATIONAL CLEANLINESS DAY (02/10/2021 & 02/10/2022)**

The college celebrated National Cleanliness Day to commemorate the death anniversary of Mahatma Gandhi every year (annexure 3). This responsibility for environmental cleanliness, calls to maintain high standards of cleanliness in our homes, workplace, road/streets and public places.

➤ **INTERNATIONAL YOGA DAY (21/06/2022)**

College celebrated International Yoga Day on 21/06/22 as yoga and health awareness with the purpose to cultivate discernment, awareness, self-regulation and higher consciousness in the individual (annexure 4).

➤ **SURYANAMSKAR (01/02/2022)**

On the auspicious occasion of the 75th anniversary of Independence, all the staff members and students come together to perform Suryanamaskar to promote a healthy lifestyle for all, as a token of gift to our beloved motherland India.

➤ **HEALTH CHECKUP CAMP (23/04/22)**

College organizes medical camp to provide initial care to students in life-threatening conditions which reflect the unique strengths and goals of medical ethics (annexure 5).

➤ **PLASTICS FREE AND SAVE NATURE (11/02/21)**

Plastic hatavo activity organized by college to establishes environment-friendly plastic waste disposal solutions. In the process it seeks to ban the use of plastic bags and plastic products, and reduce plastic littering across the campus.

➤ **SAPLING PLANTATION (07/08/22)**

Under the Tree Adaptation Abhiyan, college organized sapling plantation programme every year (annexure 6). Sapling plantation creates awareness of green earth and eco-friendly culture. Green cover is significant because it is linked to our basic need for good food to eat and clean air to breathe. Aside from these necessities, they preserve biodiversity, conserve water, preserve soil, and control climate, among other things.

IMPORTANT TREES FOUND IN THE COLLEGE CAMPUS WITH THEIR RED CONSERVATION STATUS

Table 16. Important trees found in the college campus with their red conservation status.

In this table, Least Concern (LC) tree species means is a species that has been categorized by the International Union for Conservation of Nature (IUCN) as evaluated as not being a focus of species conservation because the specific species is still plentiful in the wild. An endangered (EN) species is a type of organism that is threatened by extinction. Species become endangered for two main reasons: loss of habitat and loss of genetic variation. The conservation status of a group of a species Not Extinct indicates whether the group still exists and how likely the group is to become extinct in the near future. A data deficient (DD) species is one which has been categorized by the IUCN as offering insufficient information for a proper assessment of conservation status to be made.

Sr. No.	Status of trees	Available trees in the college campus
1	Least Concern	<i>Alstonia scholaris</i>
2		<i>Annona reticulata</i>
3		<i>Azadirachta indica</i>
4		<i>Cascabela thevetia</i>
5		<i>Caryota urens</i>
6		<i>Delonix regia</i>
7		<i>Kigelia pinnata</i>
8		<i>Moringa oleifera</i>
9		<i>Murraya koenigii</i>
10		<i>Phyllanthus emblica</i>
11		<i>Plumeria obtusa</i>
12		<i>Psidium guajava</i>
13		<i>Sapindus mukorossi</i>
14		<i>Syzygiumcumini</i>

15		<i>Tecoma stans</i>
9	Endangered	<i>Borassus flabellifer</i>
10	Not Extinct	<i>Albizia chinensis</i>
11		<i>Cassia siamea</i>
12		<i>Casuarina equisetifolia</i>
13		<i>Ceiba pentandra</i>
14		<i>Citrus limon</i>
15		<i>Mimusopselengi</i>
16	Data Deficient	<i>Mangifera pentandra</i>

MEDICINAL PLANTS AVAILABLE IN THE COLLEGE

Table 17. Medicinal plants available in the college

Sr. No.	Common name	Scientific name
1	Garlic weed	<i>Petiveria alliacea</i>
2	Basil	<i>Ocimum basilicum</i>
3	Tulsi	<i>Ocimum tenuiflorum</i>
4	Ardusi	<i>Adhatoda vasica</i>
5	chaliponga	<i>Diplopterys cabrerana</i>
6	Ashwagandha	<i>Withania somnifera</i>
7	Kesudo	<i>Butea monosperma</i>
8	Jasud	<i>Hibiscus rosa-sinensis</i>
9	Barmasi	<i>Catharanthus roseus</i>

ORNAMENTAL PLANTS AVAILABLE IN THE COLLEGE

Table 18. Ornamental plants available in the college

Sr. No.	Common name	Scientific name
1	Indian hemp/ Wild cotton	<i>Apocynum cannabinum</i>
2	Wild Tamarind	<i>Leucaena leucocephala</i>
3	Lili	<i>Lilium candidum</i>
4	Bamboo	<i>Bambusa vulgaris</i>
5	Chiku	<i>Manilkara zapota</i>
6	Rubber fig	<i>Ficus elastica</i>
7	Jasmine	<i>Jasminum officinale</i>
8	Golden Pseuderanthem	<i>Pseuderanthemum maculatum</i>
9	Savin/Thuja	<i>Janiperussabina</i>
10	Ixora/ West Indian Jasmine	<i>Ixora coccinea</i>
11	Golden Trumpet	<i>Allamandu cathartica</i>
12	Kamini/ Orange Jasmine	<i>Murraya paniculata</i>
13	Snake Plant	<i>Dracaena trifasciata</i>
14	Kamrup/Indian Laurel	<i>Ficus microcarpa</i>
15	Bili	<i>Aegle marmelos</i>
16	Rayan	<i>Manilkara hexandra</i>
17	Dadam	<i>Punica granatum</i>

TOTAL PLANTS FOUND IN THE COLLEGE CAMPUS WITH THEIR USAGES

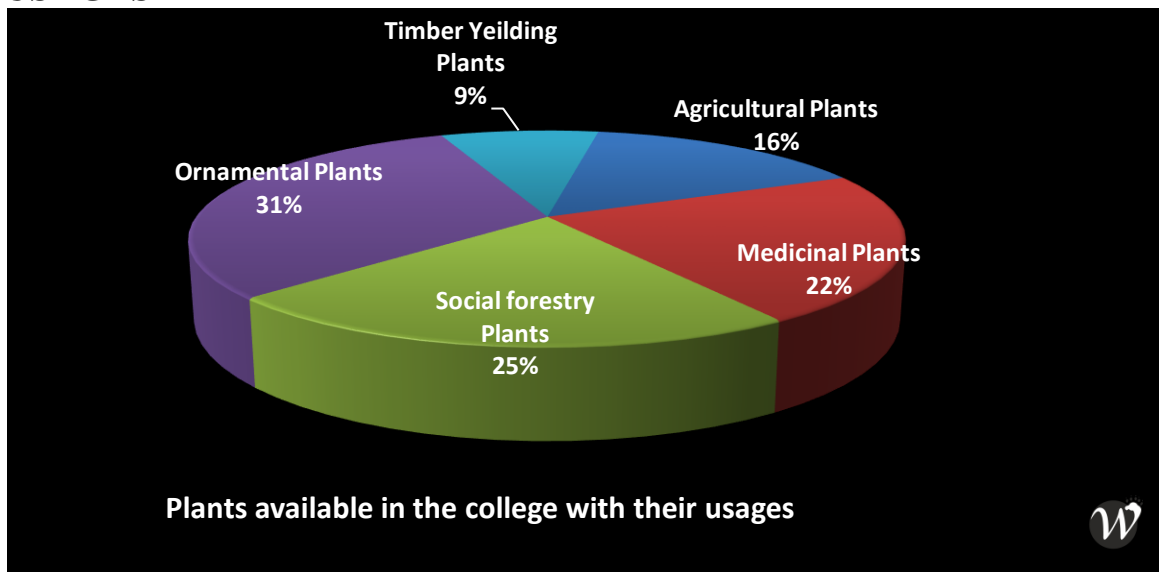


Figure 7. Total plants found in the college campus with their usages.

TALL TREES FOUND IN THE C.N. ARTS & B.D. COMMERCE COLLEGE, KADICOLLEGE

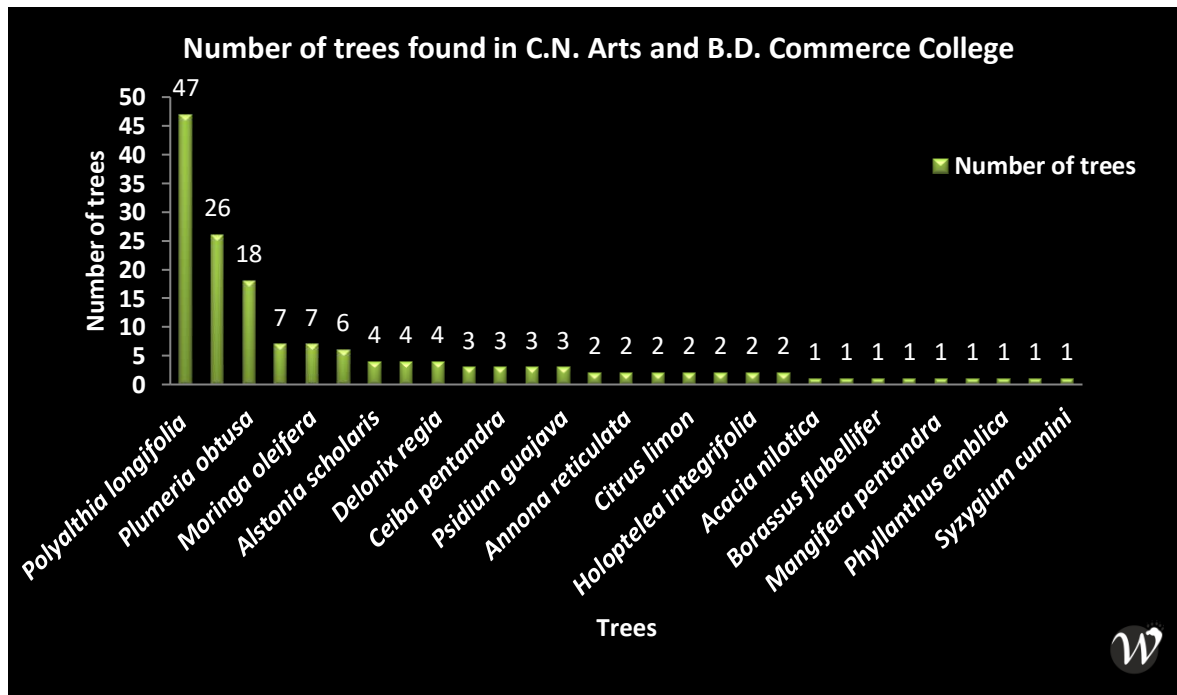


Figure 8. Number of trees found in the C.N. Arts & B.D. Commerce College, Kadi.

CARBON FOOTPRINT

According to U.S. EIA (Energy Information Administration), greenhouse gases are gases that keep heat in the earth's atmosphere. Although greenhouse gases do occur naturally, majorly human activity contributes a great deal to greenhouse gas emissions. The carbon footprint or the impact on the environment from the C.N.Arts & B.D.Commerce College, Kadi college campus measures the greenhouse gases that campus responsible for creating.

CARBON FOOTPRINT ANALYSIS

The institution takes following steps for the betterment of environment:

1. Environment and Disaster Management subject is included in the curriculum will help the youth understand how to anticipate, absorb and adapt to such events.
2. The institution is surrounded by green fields. The institution tries to maintain eco- friendly atmosphere.
3. There is a separate bore is made for water resource.
4. There is restricted entry of automobiles in the college campus.
5. There are pedestrian Friendly pathways available in the college.
6. Parent-teacher meetings done twice in a year.
7. Diameter at breast height and approximate age of the trees were measured to estimate the potentiality of carbon sequestration for the campus trees which can be seen in figure 9.
8. Total carbon sequestered by trees of campus was 443.89 t/year in which highest potentiality of carbon sequestration was observed in *Moringa oleifera*(21.84 t/year)lowest potentiality of carbon sequestration was observed in *Holoptelea integrifolia* (3.76 t/year) during the study sample.
9. There is a carbon poolingsysteminthecampuswhichminimizestheatmospher iccarbonemission.
10. Total number of vehicles used by the students ofthecollege:05
11. Total number of vehicles used by the stakeholders of the college : 118
12. Number of cycles used: 25
13. Number of two wheelers used: 118
14. Average distance travelled: 25 km
15. Average quantity of fuel used: 70Ltr
16. Number of cars used by faculties: 06



Figure 9. Diameter is estimated to measured carbon sequestration from trees available in the college campus

17. Number of cars used by visitors: 15
18. Approx distance travelled : 20 km
19. Approx quantity of fuel used : 1 Ltr
20. 1150 persons using public transportation and average distance is 35 km.
21. 5 fire extinguisher sets to control fire.
22. College has 1 generator and it is used only when it's required.
23. Adequate transportation facilities in the college.
24. College has initiative for carbon accounting and following figure shows carbon foot print calculation and comparison with country level and world level for the year of 2021-2022.

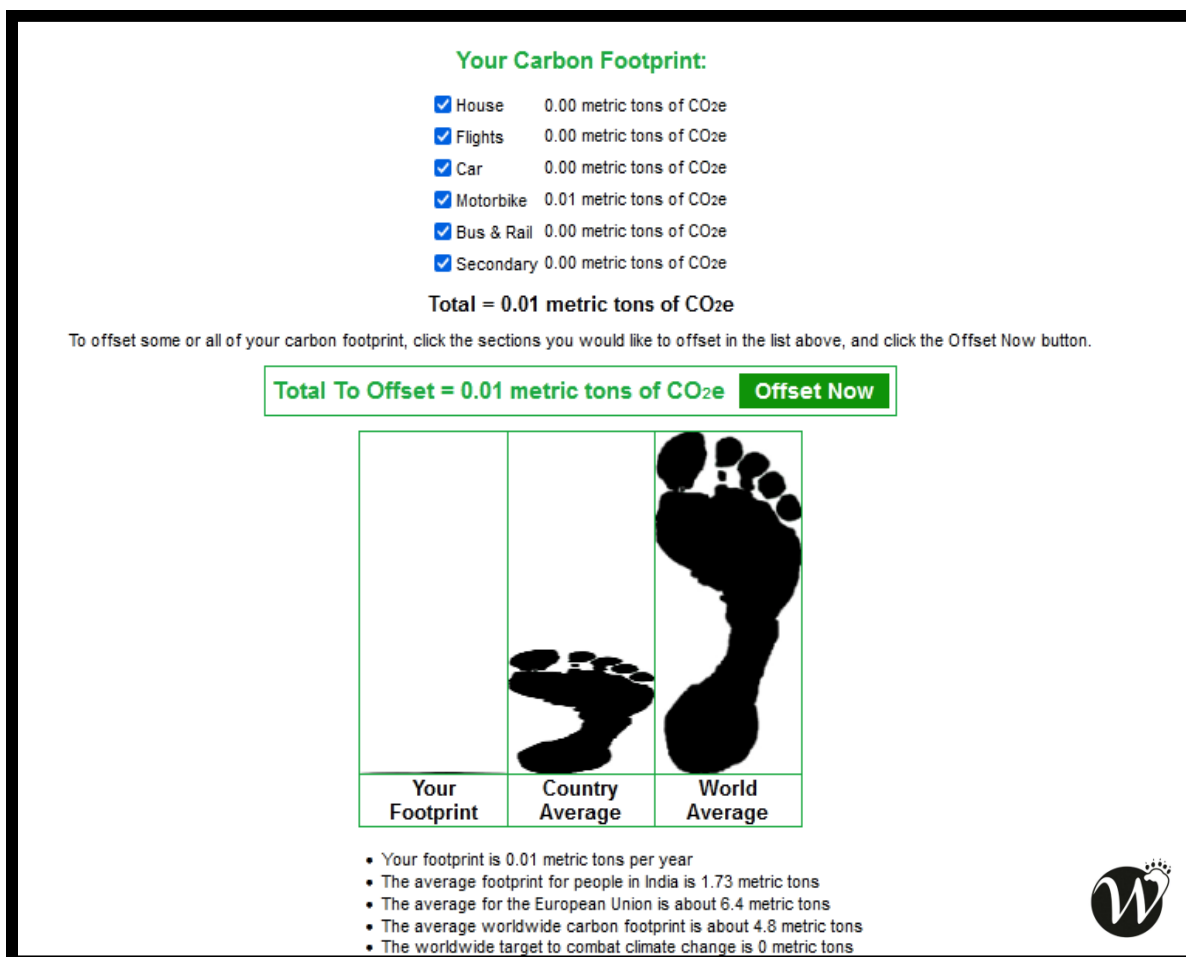


Figure 10. Carbon footprint of C.N.ARTS & B.D.Commerce College, Kadi campus to compare country and world level for the 2021-2022

CHAPTER4 FINDINGS

PREPARATION OF ACTION PLAN

Policies referring to college management and approaches towards the use of resources need to be considered. The college should have a green policy/environmental policy for its sustainable development. The environmental policy formulated by the management of the college should be implemented meticulously. The college should have a policy on awareness training programs and college also should have a procurement policy.

FOLLOWUP ACTION AND PLANS

Green Audits are exercises which generate considerable quantities of valuable management information. The time, effort and cost involved in this exercise are often considerable and in order to be able to justify this expenditure. It is important to ensure that findings and recommendations of the audit are considered at the correct level within the campus and that action plans and implementation programs result from the findings. Audit follow up is part of the wider process of continuous improvement. Without follow-up, audit becomes an isolated event which soon becomes forgotten in the pressures of management priorities and passing of time.

ENVIRONMENTAL EDUCATION

The following environmental education program may be implemented in the college before the next green audit:-

- Training programs in solid waste management, liquid waste management, setting up of separate medicinal plant nursery, water management, vegetable cultivation, and more tree plantation programmes should be done at regular intervals.
- Increase the number of display boards on environmental awareness such as save water, save electricity, no wastage of food/water, no smoking, switch off light and fan after use, plastic free campus etc.
- Activate and raise the environmental clubs.
- Set up model for rainwater pits, vegetable garden, paddy fields etc. to give students first-hand experience with nature
- Awareness on carbon consumption.
- The carbon consumption awareness programs on carbon emission at individual as well as social level will help to avoid air and noise pollution in the campus due to vehicles.

CONCLUSION

The green audit assists in the process of testing performance in the environmental arena and is fast becoming an indispensable aid to decision making in a college. The green audit reports assist in the process of attaining an eco-friendly approach to the sustainable development of the college. Hope that the results presented in the green auditing report will serve as a guide for educating the college community on the existing environment related practices and resource usage at the college as well as spawn new activities and innovative practices. It has been shown frequently that the practical suggestions, alternatives, and observations that have resulted from audits have added positive value to management of the campus. An outside view, perspective and opinion often help staffs who have been too close to problems or methods to see the value of alternative approaches. A green audit report is a very powerful and valuable communications tool to use when working with various students who need to be convinced that things are running smoothly and systems are coping with natural changes and modifications that occur.

CURRENT SAVING METHODS ADAPTED IN THE COLLEGE

- Maintain appliances and replace old appliances.
- Energy saving through the replacement of incandescent bulbs and CFL lamps could be a good option.
- Awareness programs for the students to save energy, save water may also increase sustainability in the utilization of various energy and water sources.

LIST OF ECO-FRIENDLY ACTIVITIES GOING ON IN THE CAMPUS

- Planting and caring of trees in and around the campus.
- Timely disposal of wastes from the campus.
- Celebration of important days like Plantation of trees and ban on Plastics, Celebration of National Cleanliness Day, Yoga and Health Awareness etc. with great importance.
- Management has decided to adopt green protocol.
- Distribution of medicinal plant saplings among students.

CONSOLIDATION OF AUDIT FINDINGS

We hope that students will have developed a greater appreciation and understanding of the impact of their actions on the environment. They have successfully been able to determine the impacts on the environment through the various auditing exercises. Participating in this green auditing procedure they have gained knowledge about the need of sustainability of the college campus. It will create awareness on the use of the Earth's resources in their home, college, local community and beyond.

MAJOR AUDIT OBSERVATIONS**WATER AUDIT**

- Rain water harvesting system will be adopted in the college.
- Automatic switching system installed to stop overhead tank filling.

ENERGY AUDIT

- The older appliances and non-energy efficient equipment are replaced with new energy efficient equipment.

WASTE AUDIT

- Campus is plastic free zone.
- Solid waste (garden waste) and liquid waste are managed by the college.
- The college has proper communication with the local body for regular collection of waste from the campus.
- Waste bins in the class rooms, veranda, canteen and campus are adequate.

GREEN CAMPUS AUDIT

- Gardens inside the college premises are found well maintained.
- There are adequate fruit trees in the college to attract birds.
- Total 158 plants are available in the garden in which 23 tall trees and 09 botanical saplings and 17 ornamental garden plants are present in the college campus.
- Preparation and distribution of sapling during the monsoon season among the students.
- College has some major techniques like, environmental education programs, tree adaptation activity and wastes segregation available in the campus.

LIST OF COMMON RECOMMENDATIONS

- Adopt an environmental policy for the college.
- Conduct more seminars and group discussions on environmental education.
- Students and staff can be permitted to solve local environmental problems.
- Renovation of cooking system in the canteen to save gas.
- Establish water, waste and energy management systems.
- Celebrate environmental protected days like, Environment Day, Ozone Day etc.
- To aware and protect the environment deploy sign board in all classrooms of the college.
- Every year green auditing should conduct to ensure development along with safeguarding the environment.

CRITERIA WISE RECOMMENDATIONS**WATER**

- There is not enough water consumption monitoring system in the college campus.
- The college should manage all excretory waste material in absorption pit which can be further use as a fertilizer in the garden of the college campus.
- Remove damaged taps and install sensitive taps is possible.
- Awareness programs on water conservation should be conducted.
- Install display boards to control over exploitation of water.
- Use more sprinkler for irrigation in garden.
- Water inlet and outlet of washrooms should be managed by the college.

ENERGY

- Computers and electronic equipment should be use on power saving mode.
- College should display sign boards for saving energy awareness.
- Conduct more save energy awareness programs for students and staff.
- More energy efficient fans should be replaced.
- Computers should run on standby mode when not in use.
- Regular monitoring of equipment and immediate rectification of any problems should be done as safety precaution in the campus.

WASTE

- Establish a functional biogas plant.
- The college should establish composting pit as waste recycling system such as dry wastes dumps at the back side of the garden to produce manure and then apply it into the garden inside the campus that provides major and micro- nutrients to the plants as well as it can help to improve soil texture and water holding capacity of the soil.
- Avoid paper plates and cups for all functions in the college.
- Implementation of sustainable projects to attain set environmental goals

GREEN CAMPUS

- Green campus week should be conducted every year to protect the environment.
- All trees in the campus should be labeled with their common and scientific name.
- Try to implement Miyawaki plantation on edges and roadsides
- Beautify the college building with indoor plants.
- Encouraging students through words and act for making greener campus.
- Involve students and staff for green campus activities.
- Plantation of native trees with maximum capacity to store atmospheric carbon with girth diameter of 51–70 cm which are require to give more attention during reforestation activities to retrieve the effect of emitted carbon in the campus as well as maintain the natural heritage of the state.

CARBON FOOT PRINT

- Increase a system of car pooling among the staff to reduce the number off our wheelers coming to the college.
- Encourage students and staff member to use cycles.
- Discourage the students using two wheelers for their commutation.
- A model solid waste treatment system can be established in the college as a part of awareness program to the students.
- More trees should be planted in the campus to make a source of sink for the carbon dioxide and for other greenhouse gases.

Audit Team

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**Annexure 1.
HEALTH IS WEALTH AWARENESS PROGRAMME**



**Annexure 2.
DEPLOYMENT OF SOLAR ARRAYS**

**Annexure 3.
CELEBRATION OF NATIONAL CLEANLINESS DAY**



Annexure 4.
CELEBRATION OF
INTERNATIONAL
YOGA DAY



Annexure 5.
FREE HEALTH CAMP

Annexure 6.
SAPLING PLANTATION ACTIVITY

