K.N.S.B.L ARTS AND COMMERCE COLLEGE, KHERALU

MANAGED BY KHERALU TALUKA UTTAR VIBHAG KELAVANI MANDAL, KHERALU

Green Audit Report

2019-2020

Wildlife & Conservation Biology Research Foundation

Patan 384265

EXECUTIVE SUMMARY

A nation's growth starts from its educational institutions, where the ecology is thought as a prime factor of development associated with environment. A clean and healthy environment aids effective learning and provides a conducive 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 effects a college has on the environment. As a part of such practice, internal environmental audit (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 can also create health consciousness and promote environmental awareness, values and ethics. 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 toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

In K.N.S.B.L Arts and Commerce College, Kheralu 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 K.N.S.B.L Arts and Commerce College, Kheralu 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 and operations 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 K.N.S.B.L Arts and Commerce College authorities.

Date: October 3, 2020
Place: Patan

Dr. Jagruti Jagiwala
Principal Scientist
Wildlife & Conservation Biology Research Foundation
Email: wcbresearch@gmail.com Phone: +91 83205 19905

CONTENTS

CHAPTER 1
INTRODUCTION

VISION AND MISSION

- To impart all round development the youth chiming with the universal transformation and Indian culture society can be uplifted from economic and social backwardness with the help of strong educational medium in the interior, local and rural area.
- To educate student, so as to facilitate their intellectual development, to stimulate an everlasting pursuit of knowledge.
- The in-depth education thus inculcated shall prepare students for a rewarding career of for advanced study and for upliftment of Society.
- To impartinspire, believe, achieve, which drive our culture and underpin the work of our teachers and students. Our values of respect, working together and meeting challenges further motivates ways in which we work.
- To work in manner to ensure that our staff and students share a sense of pride in our college and its traditions, whilst also embracing the challenges of 21st century learning.

OBJECTIVES

- To understand moral values that guides a professional and to address moral issues in a profession.
- To be helpful to students to secure the best possible results and to build up shining career in the present set-up of the university.
- To organize co-curricular activities so as to guide and to strengthen students in the competitive global market by causing their all-round development and by availing them to pick up opportunities in the higher spheres.
- To encourage students to grow congenial to their social set up, to mix up with others easily, to develop co-operation and objective outlook in line of self-centeredness, to flourish social vision and to show willingness to extend social services.
- To encourage students to grow aware of environment conservation.

CAMPUS AND BUILDING AREA

Table 1. Campus and building area of K N S B L Arts & Commerce College, Kheralu

Campus area	69557sq.mt
Built up area	4000 sq.mt

ACCREDITATION MILESTONES

NAAC accreditationPhase I: B Grade with 2.29 CGPA, 2009
ISO CERTIFICATE 9001:2015 Quality Management System
ISO CERTIFICATE 14001:2015 Environment Management System
ISO CERTIFICATE 2011:2018 Educational Organization Management System
ISO CERTIFICATE 4501:2018 Occupational Health Safety Management System

The K N S B L Arts & Commerce College was established on 15th June, 1986. Concomitant with this event this college was the only farthest college lying in the far-flung northern part of the Gujarat State. The majority people of the area have been illiterate and socially and economically weaker section deprived from minimal standard of living. Standing on this juncture the college has come into its bare existence by the joint efforts initiated by the visionary people of the locality followed by the Government. As per the vision statement of the college, main thrust area of this college has been to provide education to the rural students of the locality and adjoining areas. Faculty members from across the state form part and parcel of the college and are dedicated to fructify the principal vision of the institution into reality.

TEACHING LEARNING AND EVALUATION

Our college has adequate number ofteaching staff and the majority of themare experienced teachers. Most of theteacher use ICT in their teachinglearning process. Teachers engage thestudents in group discussion, seminars,debate, oral and written test,etc.while teaching process. Total 16 teachers using ICT for effective teaching with Learning Management Systems (LMS) and 4 e-learning resources used.All theteaching classes are equipped with LCDprojectors hence teachers alsoprepare unit wise PPT for effectiveteaching-learning. Expert lectures areorganized in each department.Below figure 1 shows comparative analysis for academic specialization in the academic year 2019-2020, there are total 1783 students studying B.A. (regular), 578 students in B.A. (self-finance), 178 students in M.A. and 232 students in B.COM.

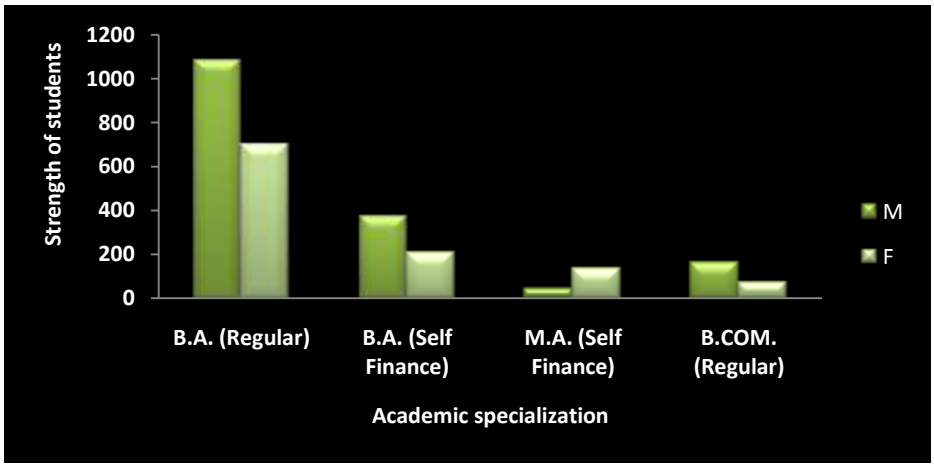


Figure 1. Strength of students vs. academic specialization (2019-2020).

CURRICULAR ASPECTS

Table 2. Curricular activities run during the academic year of 2019-2020

College activities	NSS
	NCC
	Scope Center
	Anti-ragging cell
	CWDC
	Sports
	Library activities
	Cultural activities
	Career Counseling Cell
	Competitive Examination Guidance Cell
Under UGC scheme	17 research projects completed
GujaratGovernment Education Dept	SAPTDHARA
	UDISHA
Youth Co-operative Training (Certificate is provided by Gujarat State Cooperative Union, Ahmedabad)	Mutual Help
	Theawarenessregardingthe scopesincooperativesectors
	Moralebuilding

RESEARCH, CONSULTANCY AND EXTENSION

The institution is promoting research and consultancy throughout the year. The college has local research committee comprising of five members from various subjects under the coordinators. The college has established a research center, with well equipment and necessary research related books and journals. The faculties have completed 4 minor research projects under CPE scheme. Besides, more than 10 books have been published with ISBN number. Along with the principal, ten faculties are recognized as Ph.D. guides. Besides, most of the faculty members have been published their research books.

INTERNATIONAL PUBLICATIONS

Table 3. International publications published by faculty members in 2019-2020

Type	Department	Number of Publication	Impact Factor
International	English	8	1
International	Gujarati	2	0
International	History	1	0
International	Economics	1	0
International	Commerce	1	0

NATIONAL PUBLICATIONS

Table 4. National publications published by faculty members in 2019-2020

Type	Department	Number of Publication
National	English	20
National	Commerce Accountancy	04

SEMINARS/ WORKSHOPS/ PAPERS PRESENTATIONS

Table 5. Number of Seminars/ workshops/ papers presented by faculty members in 2019-2020

Attended by Faculties	International	National	State
Seminars/Workshops	13	22	12
Presented papers	13	19	10

EXTENSION ACTIVITIES

Number of extension and outreach programmes conducted such as International Yoga Day, Special camp, Tree plantation, Thalassemia test,Cleanliness, Rakshabandhan Celebration, World Environment Day, Women Empowerment and many more in collaboration with different industries, communities and non-government organizations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year 2019-2020.

Furthermore, college has also received awards and students have participated in different activities during the year 2019-2020 which is mention in below table 6 to 8.

EXTENSION AND OUTREACH PROGRAMMES

Table 6. Number of extension and outreach programmes conducted during 2019-2020

Title of the activities	Organizingunit/collaborating agency	Number of teachers participated	Number of students participated
International Yoga Day	NSS- NCC	22	432
Social Service-Special Camp	NSS	2	100
Tree plantation	NSS- NCC	4	85
Thalassemia test	Indian Red cross Society	10	355
Cleanliness	NSS-NCC	10	270
Rakshabandhan Celebration	NSS -NCC	22	318
World Environment Day	NSS-NCC	4	230
Women Empowerment	Gujarat State Women Security Council	5	189

AWARDS RECEIVED FOR EXTENSION ACTIVITIES

Table 7. Awards received for extension activitiesduring 2019-2020

Activity	Award/Recognition	Awarding Bodies	Number of students Benefited
Social Service to MentallyHandicapped and retarded people	Certificate of Appreciation	VikalangVikasYagya, Nanivada trust, Kheralu	22

STUDENTS PARTICIPATING IN EXTENSION ACTIVITIES

Table 8. Students participating in extension activities during 2019-2020.

Name of the scheme	Organizing unit/collaborating agency	Activities	Number of teachers participated	Number of students participated
Swachh Bharat Abhiyan	NSS	Cleanliness and HealthAwareness	10	386
Anti-Tobacco Day	District Panchayat Health Department Mehsana	Evil Effects of Tobacco to HealthAwareness	5	756
Voters Awareness Pledge	Government of Gujarat	Voters Awareness	4	635
Aids Awareness	Red Cross Society	Aids Awareness	3	188
Women's Legal Awareness	Bar Council of Kheralu	Legal Guidance	5	313
Women Empowerment	Women Sexual Harassment Protection Council, Mehsana	Anti - Sexual Harassment Guidance	5	308

STUDENTS SUPPORT AND PROGRESSION

Table 9. Student support and progressionduring 2019-2020

Financial Support	Name/Title of scheme	Number of students	Amount in Rupees
From institution	VidyarthiNidhhi for Poor Students(BPL)	2	9000/-
National level	Scholarship by Government	1813	3474260/-

CAPABILITY ENHANCEMENT AND DEVELOPMENT SCHEMES

Table 10. Capability enhancement and development schemes during 2019-2020

Name of the capability enhancement scheme	Date of implementation	Number ofstudents enrolled	Agencies involved
Remedial Coaching	21/09/2015	325	Institution
Tour to Indo-Pak Boarder	10/10/2015	51	Institution
Women Empowerment	25/01/2016	308	Women Sexual HarassmentProtection Council, Mehsana and Bar Council of Kheralu
Personal Counselling and Mentoring	07/08/2015	112	Institution
Yoga	20/06/2015	437	Brahmakumaries
Red Ribbon Club	18/01/2016	84	Red Ribbon Club Mehsana
Youth Cooperative Training Course	22/08/2016	62	Gujarat State Cooperative Union,Ahmedabad
Tree Plantation	15/07/2015	115	NSS-NCC

CAMPUS INFRASTRUCTURE

MULTI-PURPOSE ROOM: The multi-purpose administrative room, which includes space for NCC, NSS, SCOP, academic staff members, coordinators of IQAC and space for executive meetings and presentations.

CLASS ROOM: All 13 classrooms are well equipped with LCD projectors including audio-visual system.Audio-visual systemcan be connected through satellite for live telecast of Sandhan.

LIBRARY: The college library is fully computerized bar coded with INFLIBNET facility and has a collection of more than 22,000 books along with new arrival stand for magazines and newspapers. Internet browsing is also available.
LANGUAGE LAB: There is a language lab with 40 computers which facilitates the students to fine tune their communication skills.

HOSTEL: The edifice is available for girls' students but majority of them uses public transportation to come to the college and hence this building is in closing condition since last more than 5 years.

SPORTS COMPLEX: College has a wide ground in which Volley Ball, Shuttle Badminton, Kabbaddi, Kho-Kho, Cricket and other outdoor sports activities are made available for students.

CANTEEN: The college canteen caters to the nutritional needs of the staff and students atsubsidized rates.

GARDEN: The college has large garden area at the entrance of the college which includes around 70 plants of different plant speciescomprises some fruit bearing plants, medical, extinct and endangered plants. One full time gardener is recruited by the college management.

COMPUTER LAB: There are four well-equipped computer labs associated with the Departments of Management, Computer Application, Physics and Chemistry.

The entire campus is spread in total 69557 sq.mt, from which 4000sq.mt area is used for buildings and infrastructure (figure 2).

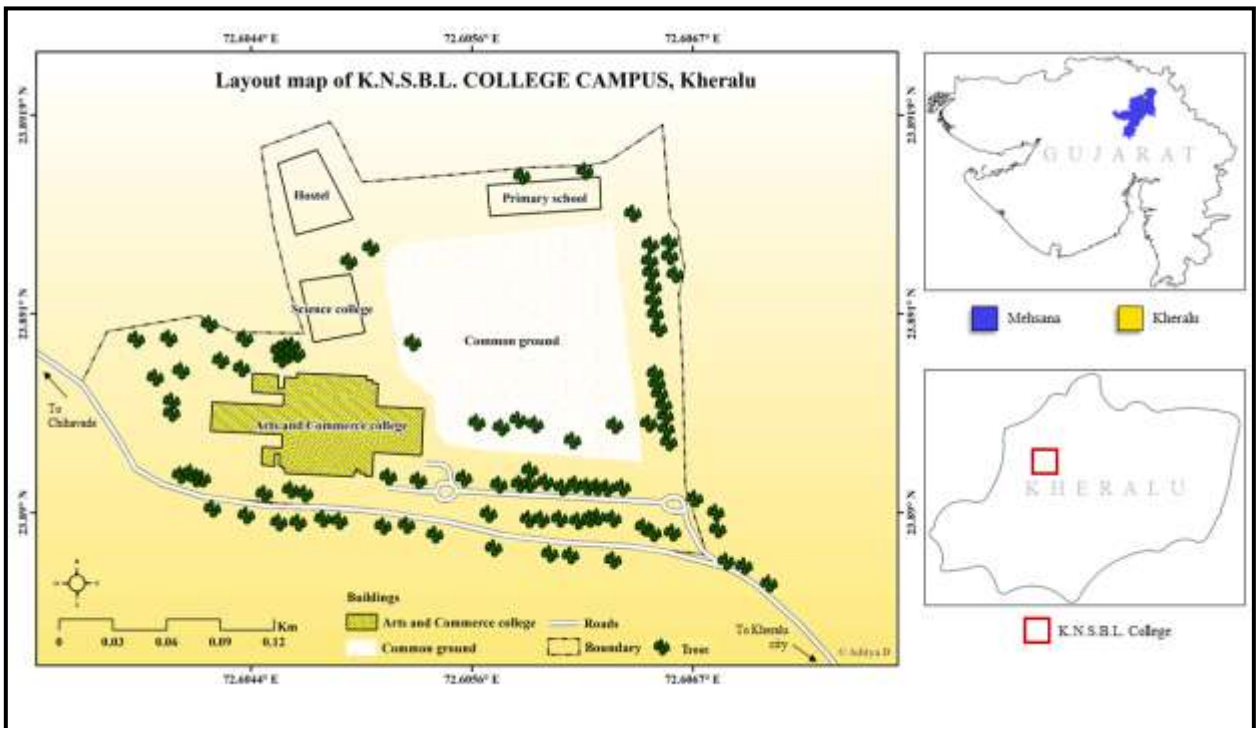


Figure 2. Layout map of K.N.S.B.L. Arts & Commerce College, Kheralu.

CHAPTER 2
PRE-AUDIT STAGE

SCOPE AND GOALS OF GREEN AUDITING

A clean and healthy environment aids in effective learning and provides aconductive learning environment. There are various efforts around the world toaddress environmental education issues. Green Audit is the most efficient andecological way to manage environmental problems. Green audit means assessing environmental performance. It is asystematic, documented, periodic, and objective review by regulated entities of facility operationsand practices related to meeting environmental requirements. It is otherwise thesystematic examination of the interactions between any operation and its surroundings. Thisincludes all emissions to air, land and water, legal constraints, the effects on the neighboringcommunity, landscape and ecology, the public's perception of the operating company in the localarea. Green audit does not stop all compliance with legislation. Nor is it a 'green washing' publicrelations exercise. Rather it is a total strategic approach to the organization's activities.It is a kind of professionalcare which is the responsibility of each individual who is the part ofeconomic, financial, social, environmental factor. It is necessary to conductgreen audit in college campus because students become aware of the greenaudit, its advantages to save the planet and they become good citizen of ourcountry. In accordance with the evaluation plan of K.N.S.B.L ARTS AND COMMERCE COLLEGE, Kheralu for 2019-2020, the Green Audit of the college conducted in August 2020.A very simple indigenized system has been devised to monitor theenvironmental performance of this college. It

comeswith a series of questions to be answered on a regular basis. This innovativescheme is user friendly and totally voluntary. The aim of this is to help theinstitution to set environmental examples for the community, and to educatethe 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 a green campus
- To enable waste management through reduction of wastegeneration, solid and liquid waste and water recycling
- To create plastic free campus and evolve health consciousness
- Point out the prevailing and forthcoming complications
- Authenticate conformity with the implemented laws
- Enhance the alertness for environmental guidelines and duties
- Impart environmental education through systematic environmentalmanagement 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
- Green auditing should become a valuable tool in the managementand monitoring of environmental and sustainable development programs of the college
- Developing the organization's environmental strategy: Enabling management to develop itsenvironmental 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 areindividual events, the real value of green audits is the fact that they are carriedout, at defined intervals, and their results can illustrate improvement or changeover time. Eco-campus concept mainly focuses on the efficient use of energyand water,to minimize waste generation or pollution and also economic efficiency.All these indicators are assessed in process of green auditing of educationalinstitute. Eco-campus focuses on the reduction of contribution to emissions,procures a cost effective and secure supply of energy, encourages and enhancesenergy use conservation, promotes personal action, reduce the institute'senergy and water consumption, reduce wastes to landfill, and integrateenvironmental considerations into all contracts and services considered to havesignificant environmental impacts. Target areas included in this green auditingare 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 freelyavailable in many natural environments, in human settlements potable water is less readily available. We need to use water wisely toensure that drinkable water is available for all, now and in the future. A smalldrip from a leaky tap can waste more than 180 liters of water to a day; that isa lot of water to waste - enough to flush the toilet eight times. Aquiferdepletion and water contamination are taking place at unprecedented rates. Itis therefore essential that any environmentally responsible institution shouldexamine its water use practices. Water auditing is conducted for the evaluationof facilities of raw water intake and determining the facilities for watertreatment and reuse. The concerned auditor investigates the relevant methodthat can be adopted and implemented to balance the demand and supply ofwater. It is therefore essential that any environmentally responsible institutionexamine its water use practices.

B) AUDITING FOR ENERGY MANAGEMENT

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

C) AUDITING FOR WASTE MANAGEMENT

Pollution from waste is aesthetically unpleasing and results in large amounts oflitter in our communities which can cause health problems. Plastic bags anddiscarded ropes and strings can be very dangerous to birds and other animals.This indicator addresses waste production and disposal, plastic waste, paperwaste, food waste, and recycling. Solid waste can be divided into twocategories: general waste and hazardous waste. General wastes include whatis usually thrown away in homes and schools such as garbage, paper, tins andglass bottles. Hazardous waste is waste that is likely to be a threat to health orthe environment like cleaning chemicals and petrol. Unscientific landfills maycontain harmful contaminants that leach into soil and water supplies, andproduce greenhouse gases contributing to global climate change.Furthermore, solid waste often includes wasted material resources that couldotherwise be channeled into better service through recycling, repair, andreuse. Thus the minimization of solid waste is essential to a sustainablecollege. The auditor diagnoses the prevailing waste disposal policies andsuggests the best way to combat the problems. It is therefore essential thatany environmentally responsible institution examine its waste processingpractices.

D) AUDITING FOR GREEN CAMPUS MANAGEMENT

Unfortunately, biodiversity is facing serious threats from habitat loss,pollution, over consumption and invasive species. Species are disappearing atan alarming rate and each loss affects nature's delicate balance and ourquality of life. Without this variability in the living world, ecological systemsand functions would break down, with detrimental consequences for all formsof life, including human beings. Newly planted and existing trees decrease theamount of carbon dioxide in the atmosphere. Trees play an importantecological role within the urban environment, as well as support improvedpublic health and provide aesthetic benefits to cities. In one year, a singlemature tree will absorb up to 48 pounds($4.535*10^{-3}$tones)of carbon dioxide from theatmosphere, and release it as oxygen. The amount of oxygen that a singletree produces is enough to provide one day's supply of oxygen for people. Sowhile you are busy studying and working on earning those good grades, all thetrees on campus are also working hard to make the air cleaner for us. Treescan impact one mental health as well; studies have shown thattrees greatly reduce stress, which a huge deal is considering many studentsare under some amount of stress.

E) AUDITING FOR CARBON FOOTPRINT

Usage of fossil fuel-based vehicles impacts onthe environment through theemission of greenhouse gases into the atmosphere. The most common greenhouse gases are carbondioxide, water vapor, methane, nitrous oxide and ozone. Of all thegreenhouse gases, carbon dioxide is the most prominent greenhouse gas,comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxidegas into the Earth's atmosphere through human activities is commonly knownas carbon emissions.An important aspect of doing an audit is to be able to measure the impact sothat one can determine better ways to manage the impact. In addition to theaudits of water, waste, energy and biodiversity aids to determine what ourcarbon footprint is, based on the amount of carbon emissions created. It is necessary to know how much the organization is contributingtowards sustainable development. It is therefore essential that anyenvironmentally responsible institution examine its carbon footprint.

METHODOLOGY OF GREEN AUDITING

The purpose of the audit was to ensure that the practices followed in thecampus are in accordance with the Green Policy adopted by the institution. The criteria, methods and recommendations used in the audit were based on theidentified risks. The methodology includes: preparation and filling up ofquestionnaire, physical inspection of the campus, observation and review of thedocument, interviewing responsible persons and data analysis, measurementsand recommendations. The methodology adopted for this audit was a three-step process comprising of:

A) DATA COLLECTION

In preliminary data collection phase, exhaustive datacollection was performed using different tools such as observation, surveycommunicating 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 andobservations, some steps for reducing power and water consumption wererecommended. Proper treatments for waste were also suggested. Use of fossilfuels has to be reduced for the sake of community health.The above target areas particular to the college was evaluated throughquestionnaire for data collection. Fivecategories 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 oftenis 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 coolersare there in your college?
14. How many UPSare there in your college?
15. How many printersare there in your college?
16. How many Xerox machinesare there in your college?
17. How many CCTV camerasare there in your college?
18. Do you run "switch off" drills at college?
19. Are your computers and other equipment put on power-saving mode?
20. What are the energy conservation methods adapted by your college?
21. Any alternative energy sources/nonconventional energy sources are employed / installed in your college?
22. 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 – (Mention the type), bus / railway station, market / shopping complex / public halls, residential area.
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 thecollegemanaged?
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 thegarden?
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 yourcollege?
8. Do you have any composting pit in your college? If yes, what are youdoing with the compostgenerated?
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 collegecampus.
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 somemethodsto reduce the quantity of use of fuel used by travelers.
5. Mention the usage of cycles, two wheelers, cars, common transportation and visitors' vehicles perday?

CHAPTER 3
POST AUDIT STAGE

The base of any green audit is that its findings are supported by documentsand verifiable information. The audit process seeks, on a sampled basis, totrack past actions, activities, events, and procedures to ensure that they arecarried out according to systems requirements and in the correct manner.Green audits form a part of a process. Although they are individual events, thereal value of green audits is the fact that they are carried out, at definedintervals, and their results can illustrate improvement or change over time.Although green audits are carried out using policies, procedures, documentedsystems and objectives as a test, there is always an element of subjectivity inan audit. The essence of any green audit is to find out how well theenvironmental management and environmentalequipment are performing. Each of these components is crucial inensuring that the campus environmental performance meets the goalsset in its green policy. The individual functioning and the success of integrationwill all play a role in the degree of success or failure of the campusenvironmental performance.

KEY FINDINGS AND OBSERVATIONS

A) WATER

1. Main water uses in the campus: gardening, toilet, cleaning, canteen, drinking, washing and office uses.
2. Bore wale are main sources water in the campus.
3. Storage of water: one underground RCC tank with the capacity of 25000 L and one overhead PVC tank with the capacity of 3000 L.
4. Water wastage mainly during urinals and toilets.
5. Water wastage can be prevented by: wisely flush in toilets.
6. Usage of waste water: reuse of waste water in gardening practice.
7. No laboratories, agriculture field and closing conditional hostel are available in the college.
8. Reduce the usage of water are foremost ways to waste water used in college.
9. There is no water meter box in the college.
10. Number of water coolers:04 and approximately 600 L water used per day.
11. Number of water taps:38 and approximately 1000 L water used per day.
12. Number of bathroomsin staff rooms and common: 3 and approximately 100 L water used per day.
13. Number of toilets and urinals: 04 and approximately 200 L water used per day.
14. Only one water tap is available in the canteen and it has usage of approximately 100L per day.

15. Approximately 1000L water used per day for garden purpose.
16. No water treatment system in place.
17. Leaky taps; waterless toilets; water fountain: None
18. There are signs reminding people to turn off the water.
19. Water fountains: 27
20. Leaky water fountains: none
21. Drip irrigation system available at border of the garden.
22. The college land without tree/buildingcanopy. 4000 SQ. MTRS
23. Water management plan: bore well
24. Once in a weekof month garden watered.
25. Drip irrigation system used for watering the plants in garden.
26. Rain water harvesting technique should be implemented which can save more water in the college.
27. Approx. 2000 L water use per day in the college which is detailed in below table 10.

OVERALL UTILIZATION OF WATER IN THE COLLEGE

Table 11. Overall utilization of water in the College

Sections	**Water Use/ Day (L)**
Urinals and toilets	200
Garden	1000
Bathrooms	100
Canteen	100
Water cooler	600
Total	2000

B) ENERGY

1. Usageof energy throughelectricity only.
2. Last year electricity bill:Rs. 1,24,600kwh/ year.
3. No LPG cylinders in a college.
4. Automatic switch for street lightavailable in the college as energy saving methods.Also, the construction of the college is such that there is no need to switch on the light in all class rooms as full sunlight comes during the day time.
5. CFL bulbs installedin the college: None

6. Total number of LED bulbs and tube lights: 80
7. Total number of fans:60
8. Total number of air conditioners:01 (only use in summer)
9. Total number of computers: 70
10. Total number of cooling apparatus: 01(freeze)
11. Total number of invertors: 01
12. Total number of electrical equipment: 16 projectors
13. Total number of street lights: 06
14. Total number of generators: none
15. Total number of TV: 02
16. Total number of R.O. system: 02
17. Total number of UPS: 04
18. Total number of printers: 05
19. Total number of Photocopy machine: 02
20. Total number of CCTV camera: 41
21. Total number of class rooms: 26; Smart class room:01; Staff room: 01; 01 auditorium hall, 01 seminar hall, 01 multipurpose room; 01 language lab, 01 store room and 01 library.
22. College always follows switch off electrical equipment when not in use.
23. Computers are on power saving mode: yes.
24. Computers run on standby mode most of the time for approximately 2 hours.
25. Alternative source of energy like solar energy/ energy efficient stove: not yet applied but all classrooms are well ventilated and timing of college is 8:00 to 1:00 hence the college do not need to switch on the fan-light continuously.
26. Four boards are displayed for saving energyawareness in the college.
27. Solar energy conservation method should be adoptedto reduce the energy use in the college campus infuture.
28. Below figure 3 is showing last year electricity bill:

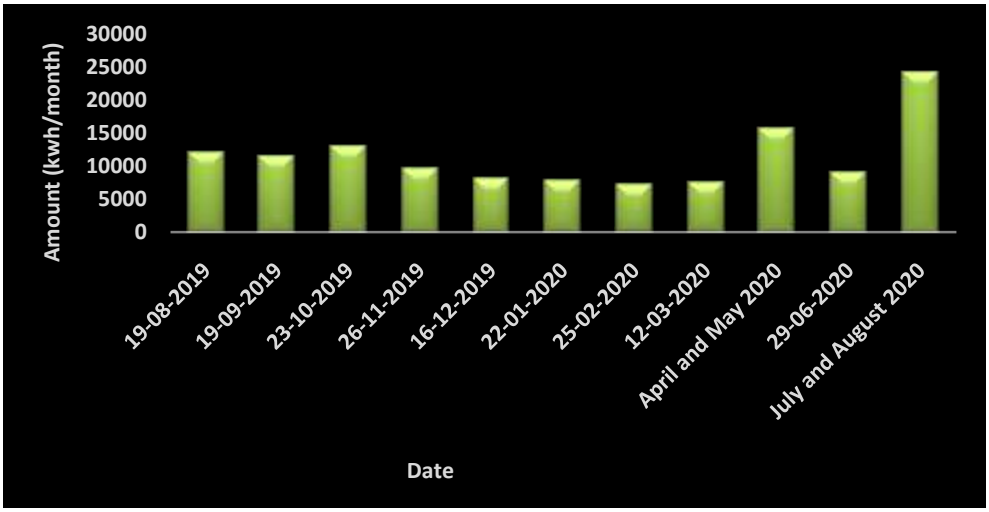


Figure 3. Electricity bill of K.N.S.B.L. Arts & Commerce College during 2019-2020.

29. Calculation of energy for major electrical appliances used in college campus.

Table 12. Calculation of energy for electrical appliances used in college campus during 2019-2020

Name of Appliances	No. of appliances	Power consumption (watt)	Power consumption (KW)	Usage/day (hours)	Average kWh/day	Average kWh/month
Fan	60	4200	4.2	03	756	22680
LED bulb and tube light	80	1840	1.84	02	294.4	8832
Computer	70	7000	7	02	980	29400
TV	02	100	0.1	01	0.2	6
Printer	05	200	0.2	01	1	30
Air conditioner	01	1500	1.5	04	6	180
Freeze	01	150	0.15	06	0.9	27
Invertor	01	300	0.3	0.01*	0.003	0.09
CCTV camera	41	615	0.61	06	150.06	4501.8

Note: *Invertor only used on Thursday in a month due to power cut

30. Average energy for major electrical appliances used in college (figure 4).

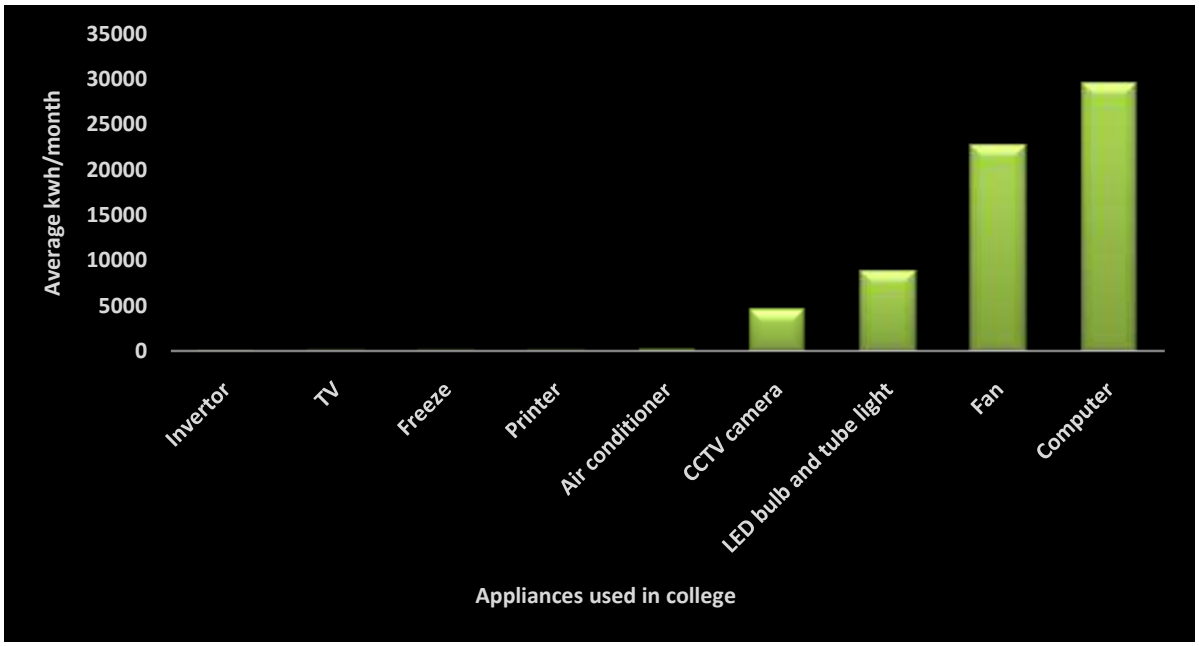


Figure 4. Average energy for major electrical appliances used in college of K.N.S.B.L. Arts & Commerce College during 2019-2020.

C) WASTE

1. College campus area is far from the disturbances like municipal dump yard, garbage heap, public convenience, sewer line, stagnant water, open drainage, industry, bus / railway station, market / shopping complex / public halls.
2. College generates solid waste, dry leaves and canteen waste.
3. Composting system will be produced in future to reduce garden waste.
4. We use recycled paper in the college.
5. Pollution and Environment Awareness Programmes conducted in college.
6. College spreads the message of recycling to others in the community such as rally in Town and NSS activities done by the college.
7. Reduce, Recycle, Reuse and refuse are some ways to achieve zero garbage in the college and the college is trying to accomplish to fulfil these things.
8. The risk of dumping garden waste is that it may contain seeds and plant parts that may grow (propagules), as well as increase fire fuel loads, disrupt visual amenity, accrue economic costs associated with the removal of waste as well as costs associated with the mitigation of associated impacts such as weed control, forest fire.
9. Bio-degradable, non-degradable, electronic waste and toxic materials are regularly collected by Nagar palika twice in a month. So, college achieve zero garbage.

10. Generated wastes can be managed by composting (by dumping dry leaves and other garden wastes in it) and also by recycling (through rain water harvesting technique).

11. Table 13. Total strength of during 2019-2020

Students	No. of students	No. of teachers	No. non-teaching staff
Gents	1675	18	10
Ladies	1121	07	01
Total	**2976**	**25**	**11**

12. Approximate waste generated per day (in kilograms):

(i) Office

Approx.	Bio degradable	Non-Bio degradable	Hazardous	Others
< 1 kg.	250gms	--	--	--
2 - 10 kg	--	--	--	--
> 10 kg.	--	--	--	--

(ii) Canteen/kitchen

Table 14. Both the above table i and ii describes waste generated per day

Approx.	Bio degradable	Non-Bio degradable	Hazardous	Others
< 1 kg.	1 Kg	--	--	--
2 - 10 kg	--	--	--	--
> 10 kg.	--	--	--	--

Table 15. Waste generated from office and canteen per day during 2019-2020

Facility	Occupied area (Sq. mt)/ number
Garden area	8000
Play-ground area	4000
Toilets (number)	04
Garbage dump (number)	01
Computer lab	01
Canteen	01
Parking area	02
Class rooms (number)	26
Office rooms (number)	06
Library	01
Indoor games hall	01
Auditorium	01

D) GREEN CAMPUS

1. Total approximately 8000 sq.mtrsarea of the campus under tree canopy cover.
2. Yes, students spend time in the garden.
3. Approximately 50 plants are planted by the students.
4. Some of the plants has display board with their scientific name in the campus.
5. Every year college celebrates Van Mahotsav by planting trees in the campus.
6. Approximately 1000 L from borewell water is used in the gardens.
7. Once in a year Urea and organic fertilizers of cattle used in the gardens.
8. Management recruited a gardener Rajubhaito maintain the garden and paid 8000/month tothe gardener.
9. The college is planning to develop one composting pit inside the campus.
10. Campus harbors many botanical tree species in a botanical garden.
11. There are 7 fountains are available along with drip system around the garden area.
12. Active involvement of students in the green cover maintenance.
13. Students actively organizednature awareness programmessuch as:

- **VISIT TO TARANGA FOREST AND POLO FOREST**
  Every year college organizes one day visit to forest area. The main objective of conducting a field trip for students is to reinforce experimental and contextual learning as well as to get a clear picture of different stages of growth of plants in the nurseries.

- **WORLD ENVIRONMENT DAY**
  Awareness seminars are organized on various environmental problems. Distribution of trees, poster exhibition etc. activities are done on the June 5th.

- **PLANTATION OF TREESANDNOPLASTIC ZONE**
  College encourages environmental protection activities and organizes tree plantation and no plastic zone in the college campus. Plantation of trees activity done by the students and teachers on the date of 24 the June, 2019, to spread its important to student as tree plantation help to reduce greenhouse gasses and fight climate change; improving the quality of the natural environment, attracting more wildlife and increasing wildlife habitat as well as improving water quality in your streams and ponds.Plastic hatavo activity organized by college (13th September, 2019) to establishesenvironmentfriendly 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.

- **SWACHH BHARAT ABHIYAN-**

  Under the Swach Bharat Abhiyan, college organized cleanliness programme for a week i.e., August 1st to 15thand developed a committee which plays a significant role inthe campus premises, to make campus neat, clean and dust free. The college also encourages the students to use dustbinput on the corridor as a part of good habit.

- **CELEBRATION OF GANDHI JAYANTI**

  Gandhi considered non-violence to be a philosophy, a principle and an experience based on which it ispossible to build a better society.College organized Gandhi JivanYatra with the help of Sadar Gram SevaMahavidyalaya during 23th-27th Sept, 2019.

- **UNNAT BHARAT**

  Unnat Bharatis an active campaign under NSS students. Five villages of KheraluTaluka are adopted under it. This campaign encourages students for student exchange programme under Ek Bharat ShreshthaBharat.

- **YOGA AND HEALTH AWARENESS**

  The purposes of yoga were to cultivate discernment, awareness, self-regulation and higher consciousness in the individual.

14. TOTAL NUMBER OF PLANTS IDENTIFIED IN THE COLLEGE CAMPUS

Total 442 plants are identified in the college campus in which 43 different tree species along with 268 tall trees, 172 herbs, shrubs and weeds are present in the college campus (figure 5).

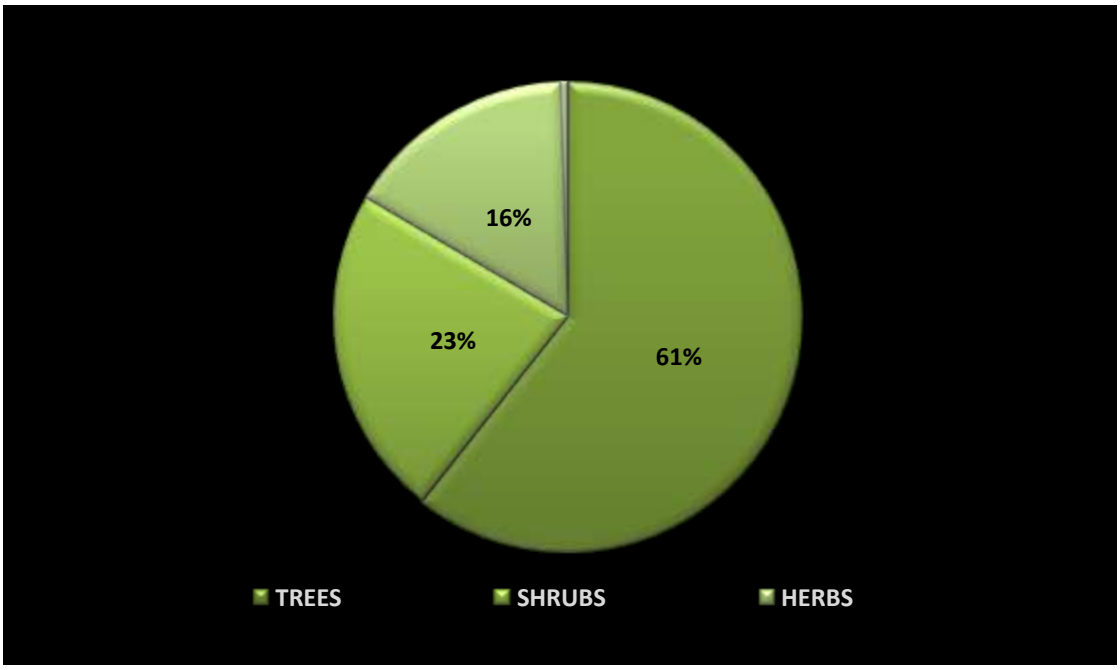
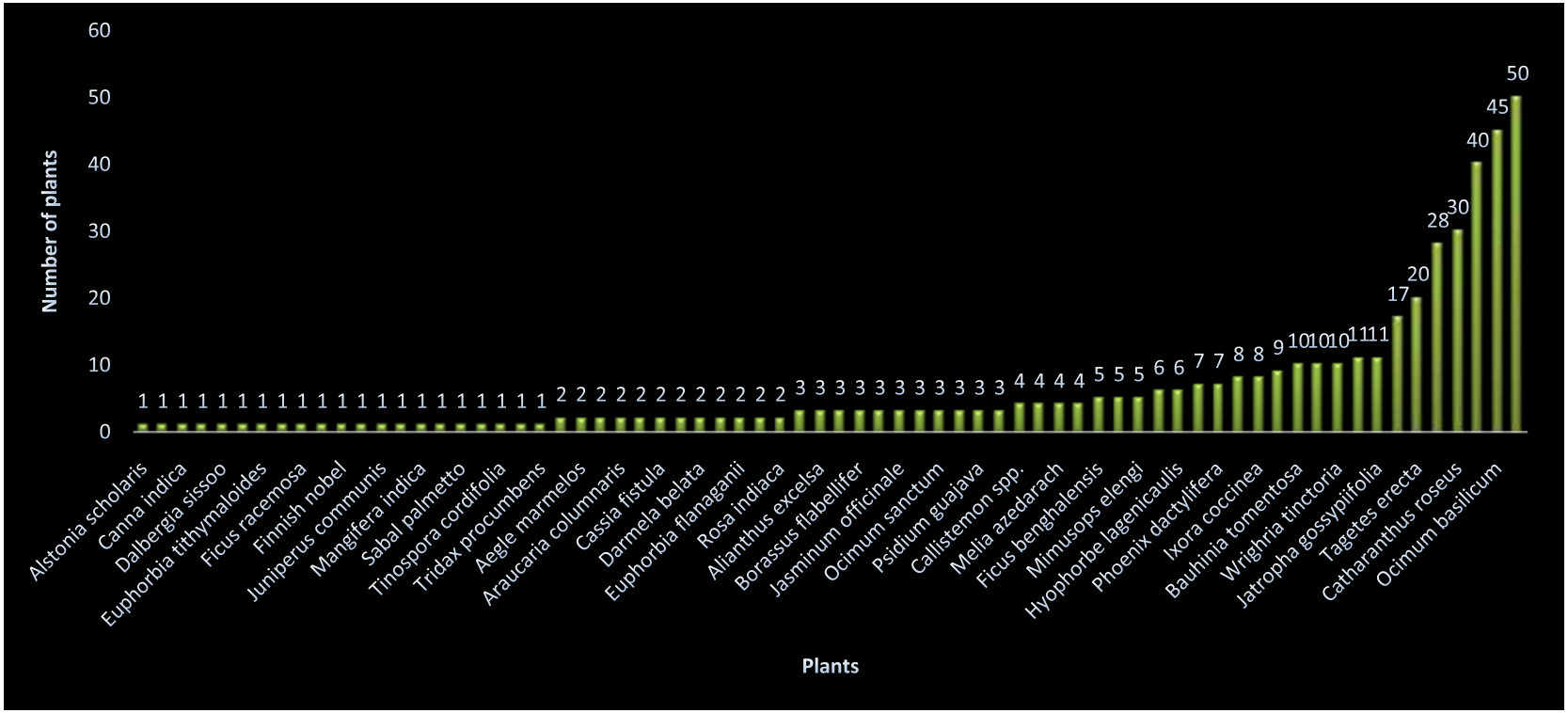


Figure 5. Total number of plants identified in the college campus during 2019-2020.

15. DIFFERENT PLANT SPECIES FOUND IN THE COLLEGE CAMPUS

Green campus drive is an initiative of the college to protect the environment. The campus is lush green with gardens, lawns, flowers and plants.Total 442 plants are identified in which 43 different tree species, 71 herbs and numerous shrubs and weeds are present in the college campus(figure 6). Some important plants like endangered, extinct, fruit yielding, medicinal and common plants are listed in



annexure 1 and annexure 2.

Figure 6. Different plant speciesidentified in the college campus during 2019-2020.

E) CARBON FOOTPRINT

The carbon footprint is a very powerful tool to understand the impact of personal behavior on global warming. To stop global warming, the calculation and constant monitoring of your personal carbon footprint is essential. Using carbon footprint calculators, which calculate individual activities like, e.g., travelling by car, train, bus or air plane, fuel consumptions, electricity bills and so on. Then see the amount of CO_2 created for each individual activity.

1. Total Number of vehicles used by the students of the college: 40
2. Approximately 90% persons using common (public) transportation.
3. Parent-teacher meetings done oncein a year
4. Approximately 10 visitors' vehicles come in a day.
5. College do not possess generators, LPG cylinders and kerosene.
6. There is a carbon pooling system in the campus which minimizes the atmospheric carbon emission.
7. Below figure7shows per day total number of persons using cycles: 2, cars: 10; two wheelers: 50; public transportations used by students:85 and visitors: 10

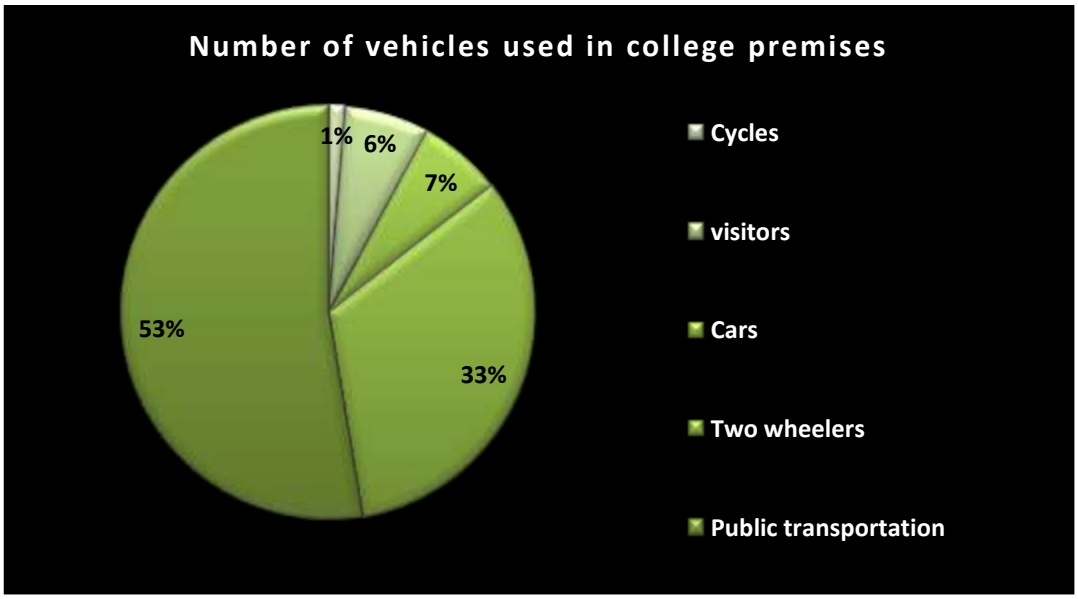


Figure 7. Number of vehicles used in college premises during 2019-2020.

LIST OF ECO-FRIENDLY ACTIVITIES GOING ON IN THE CAMPUS

- Turn off electrical equipments when not inuse.
- Maintain appliances and replace oldappliances.
- Use computers and electronic equipmentsin power savingmode.
- Planting and caring of trees in and around the campus.
- Timely disposal of wastes from the campus.
- Celebration of important days like World Environment Day, Swachh Bharat Abhiyan,Plantation of trees and No Plastic Zone, Celebration of Gandhi Jayanti, Unnat Bharat, visit to forest, Yoga and Health Awarenessetc. with great importance.

CONSOLIDATION OF AUDITFINDINGS

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, and to the local community.

MAJOR AUDIT OBSERVATIONS

- Gardens inside the college premises are found wellmaintained.
- Use of notice boards and signs are adequate to reduce over exploitation of naturalresources.
- Programs on green initiatives are carry out throughout the year.
- Campus is plastic free zone.
- College operates environmental education programs throughout the year.
- To aware and protect the environment the sign board is kept at all classrooms of the college.

WATER AUDIT

- The college hasdeveloped a pit to collect all excretory waste material inwhich further used as a fertilizer in the garden of the college campus.
- Automatic switching system installedto stop overhead tank filling.

ENERGY AUDIT

- The architectural planning of college building is designed in such a way that all classrooms are well ventilated hence there is no need to switch on the fan-light continuously.

WASTE AUDIT

- Solid waste (garden waste) management system is maintained.
- The college has proper communication with the local body for regular collection of other solid 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.
- Regular planting of trees in the campus.
- Display boards to identifyplants.
- Total 442plantsare available in the garden in which43 different tree species along

with268 tall trees, 172 herbs, shrubs and weeds are present in the college campus.

- Separate arboretum is set in the college campus.

CARBON FOOT PRINT AUDIT

- Adequate transportation facilities in the college.
- College should encourage the students and faculties to use cycles.
- Burning of fossil fuels is the main source and cause of carbon dioxide release to the atmosphere. Carbon dioxide release by the vehicles used by the students and faculties to reach the college is under the level.
- Below figure 8 shows college footprint compare to country and world level.

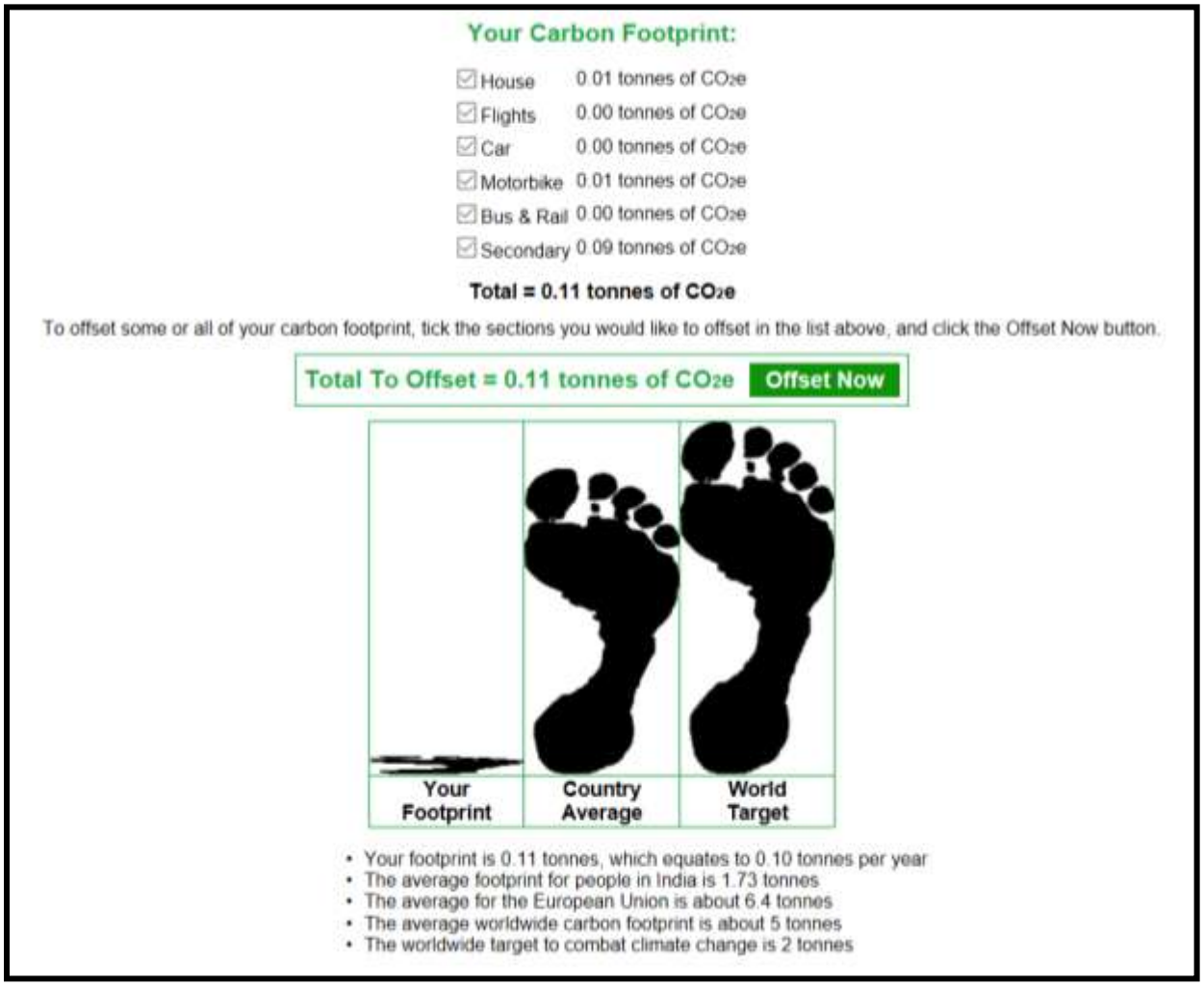


Figure 8. College footprint compare to country and world levelduring 2019-2020.

CHAPTER 4
MAJOR 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.

FOLLOW UP 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 the 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, the audit becomes an isolated event which soon becomes forgotten in the pressures of management priorities and the 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 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, medicinal plant garden, paddy fields etc. for providing proper training to the students.
- 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 AND FULL LIST OF RECOMMENDATIONS

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 helpstaffs 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 and procedures are coping with natural changes and modifications that occur.

COMMON RECOMMENDATIONS

- Adopt green policy/an environmental policy statement indicating the commitment of the college towards its environmental performance.
- The environmental awareness initiatives are not substantial.
- 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.
- Every year green audit should be done to compare meet of achievements in the college campus.

CRITERIA WISE RECOMMENDATIONS

WATER AUDIT

- Remove damaged taps and install sensitive taps is possible.
- Awareness programs on water conservation to be conducted.
- Install display boards to control over exploitation of water.
- Rain water harvesting technique should be apply in the college campus. Measurement of quantity of water obtained from the rain water harvesting should be done.
- Automatic switching system should be installed for pump sets used for overhead tank filling.

ENERGY AUDIT

- Conduct more save energy awareness programs for students and staff.
- More energy efficient appliances should be replaced.
- Solar panel system should be installed to save energy.
- Conduct regular monitoring of equipments and immediate rectification of any problems.

WASTE AUDIT

- Establish solid waste management systems.
- Implement sustainable projects to attain set environmental goals is not in place.
- Establish a functional biogas plant.
- A model vermicomposting plant to be set up in the college campus.
- Establish a plastic free campus.
- Avoid paper plates and cups for all functions in the college.Follow R3 system, i.e., Reduce, Reuse, Recycle, Refuse. This can be done by using reusable items rather than disposable ones.

GREEN CAMPUS AUDIT

- Signing board for all trees such as scientific name, local name and family of the trees should be done of the campus.
- Create more space for planting and plant trees as Miyawaki method.
- Grow potted plants at both verandah and class rooms.
- Not just celebrating environment day but making it a daily habit.
- Beautify the college building with indoor plants.
- Encouraging students not just through words, but through action for making the campus greener.
- Conducting competitions among departments for making students, teaching-non teaching staffs more interested in making the campus greener.
- Training in vegetable cultivation and composting practices are inadequate.
- Paddy cultivation should be done regularly.
- There are very few fruit trees in the college to attract birds.
- Uses of herbs cultivated in the medicinal garden should be displayed.

CARBON FOOTPRINT AUDIT

- Increase a system of carpooling among the staff to reduce the number of four wheelers coming to the college.
- Encourage students and staff member to use cycles or followodd-even scheme as rationing system. For example, vehicles having number plates ending with even numbers like 0, 2, 4, 6 and 8 will be allowed to run on even dates, while those with odd like 1,3,5,7 and 9 will be allowed to run on odd dates.
- Assessment of carbon sequestration potential of identified trees of college campus should be done. Trees acts as a sink for the carbon dioxide to mitigate the overall environmental footprint and can achieve sustainable development goals.
- College should take initiative for carbon accounting.
- Enhance 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.

CHAPTER 5
ANNEXURES

ANNEXURES I: IMPORTANT PLANT SPECIES FOUND INTHE COLLEGE CAMPUS

Endangered Species	*Santalum album L.* (Chandan)
Extinction species	*Aeglemarmelos (Bili)*
Fruit Yielding Plant	*Annonasquamosa*(Sitaphal)
Medicinal Plant Species	*Aloe vera*(Kuvarpathu)
	Barleriaprionitis (Vajradanti)
	Camellia sinensis(Green tea)
	Canna indica(Kaina)
	Couroupitaguianensis (Shivjata)
	Darmelabelata(Parijat)
	Echeveriaderesina(Deresina)
	Euphorbia flanaganii(Medusa Head)
	Euphorbia tithymaloides(Seashell Devil's Backbone)
	Finnish nobel(Aateli)
	Grewiaflavescens(Tobat)
	Jatrophagossypiifolia(Bellyache bush)
	Azadirachtaindica(Limdo)

ANNEXURES II: COMMON PLANTS FOUND IN THE COLLEGE CAMPUS

Sr. no.	Local name	Botanical name	Family
1	Chanothi	*Abrusprecatorius*	Fabaceae
2	Billipatra	*Aeglemarmelos*	Rutaceae
3	Agave	*Agave americana*	Asparagaceae
4	Arduso	*Alianthusexcelsa*	Simaroubaceae
5	Kuvarpathu	*Aloe vera*	Asphodeloideae
6	Saptparni	*Alstoniascholaris*	Apocynaceae
7	Annona	*Annonasquamosa*	Annonaceae
8	Mogaro	*Arabian jasmine*	Oleaceae
9	Chrismas tree	*Araucaria columnaris*	Araucariaceae
10	Limdo	*Azadirachtaindica*	Meliaceae
11	Vajradanti	*Barleriaprionitis*	Acanthaceae
12	Champo	*Bauhinia tomentosa*	Fabaceae
13	Kachnar	*Bauhinia variegata*	Fabaceae
14	Pankhatad	*Borassusflabellifer*	Arecaceae
15	Bottle bush	*Callistemon spp.*	Myrtaceae
16	Green tea (lemon grass)	*Camellia sinensis*	Theaceae
17	Kaina	*Canna indica*	Cannaceae
18	Hathisund	*Capparis decidua*	Capparaceae
19	Garmalo	*Cassia fistula*	Fabaceae
20	Sharu	*Casuarinaequisetifolia*	Casuarinaceae

21	Barmasi	*Catharanthusroseus*	Apocynaceae
22	Limbu	*Citrus limon*	Rutaceae
23	Conokarpash	*Conocarpus erectus*	Combretaceae
24	Geiger tree	*Cordiasebestena*	Boraginaceae
25	Shivjata	*Couroupitaguianensis*	Lecythidaceae
26	Sissoo	*Dalbergiasissoo*	Leguminaceae
27	Parijat	*Darmelabelata*	Oleaceae
28	Gulmahor	*Delonixregia*	Fabaceae
29	Sansevieriatrifasciataprain	*Dracaena trifasciata*	Liliaceae
30	Deresina	*Echeveriaderesina*	Crassulaceae
31	Medusa Head	*Euphorbia flanaganii*	Spurges
32	Seashell Devil's Backbone	*Euphorbia tithymaloides*	Spurges
33	Vad	*Ficusbenghalensis*	Moraceae
34	Indian ruboor	*Ficuselestica*	Moraceae
35	Umaro	*Ficusracemosa*	Moraceae
36	Pipal	*Ficusreligiosa*	Moraceae
37	Aateli	*Finnish nobel*	Shrub
38	Sevan	*Gmelinaarborea*	Lamiaceae
39	Tobat	*Grewiaflavescens*	Malvaceae
40	Kanaji	*Holopteleaintegrifolia*	Ulmaceae
41	Palm	*Hyophorbelagenicaulis*	Arecaceae
42	Ixora	*Ixoracoccinea*	Rubiaceae

43	Chameli	*Jasminumofficinale*	Oleaceae
44	Bellyache bush	*Jatrophagossypiifolia*	Euphorbiaceae
45	Juniperesh	*Juniperuscommunis*	Cupressaceae
46	Vash	*Justiciaadhatoda*	Acanthaceae
47	Padhharpatti	*Kalanchoepinnata*	Crassulaceae
48	Lalmehandi (Kun baraji)	*Lawsoniainermis*	Lythraceae
49	Ambo	*Mangiferaindica*	Anacardiaceae
50	Bakanlimdo	*Meliaazedarach*	Meliaceae
51	Lajamani	*Mimosa pudica*	Fabaceae
52	Borsali	*Mimusopselengi*	Sapotaceae
53	Shetur	*Morusnigra*	Moraceae
54	Mitholimado	*Murrayakoenigii*	Rutaceae
55	Damaro	*Ocimumbasilicum*	Lamiaceae
56	Tulsi	*Ocimum sanctum*	Lamiaceae
57	Date palm	*Phoenix dactylifera*	Arecaceae
58	Amla	*Phyllanthusemblica*	Phyllanthaceae
59	Asopalav	*Polyalthialongifolia*	Annonaceae
60	Jamfal	*Psidiumguajava*	Myrtaceae
61	Gulab	*Rosa indiaca*	Rosaceae
62	Cabbage Palm	*Sabal palmetto*	Arecaceae
63	Chandan	*Santalum album*	Santalaceae
64	Jambu	*Sygygiumcumini*	Myrtaceae

65	Hajarigota	*Tageteserecta*	Asteraceae
66	Terminalia	*Terminaliacatappa*	Combretaceae
67	Adavigiloy	*Tinosporacordifolia*	Menispermaceae
68	Tredencasia	*Tradescantiazebrina*	Commelinaceae
69	Kerisha	*Tridaxprocumbens*	Asteraceae
70	Dudheli	*Wrighriatinctoria*	Apocynaceae

Audit Team

Dr. JagrutiJagiwala *PhD*	Principal Scientist
Dr. Nishith Dharaiya *PhD*	Director of Research
Mr. Pratik Desai *M.Sc.*	Auditing Assistant
Mr. Aditya Dharaiya *B.Sc.*	Auditing Assistant
Mr. Sarthak Chaudhary *B.Sc.*	Volunteer

Email: wcbresearch@gmail.com Phone: +91 83205 19905