GREEN AUDIT REPORT

(2017-2018)

Chhotu Ram Arya College

Sonipat- 131001

CONTENTS

1. Preface

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyze environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent. The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO2 from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

2. Audit Participants on behalf of Institution

S. No.	NAME	POSITION/DEPARTMENT
1	Sh. Niranjan Singh	SDO, Horticulture, Maharshi Dayanand University, Rohtak
2	Dr. J.S. Phor	Associate Professor of Physics
3	Dr. Seema Kuhad	Assistant Professor of Zoology

3. Objectives

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college

- To document the floral and faunal diversity of thecollege

- To record the meteorological parameter of Sonipat where college is situated
- To document the ambient environmental condition of weather, air, water and noise of the college
- To document the waste disposal system
- To estimate the Energy requirements of thecollege
- To report the expenditure on green initiatives during the last five years.

4. Acknowledgement

Green Audit Team thanks the management of Chhotu Ram Arya College for assigning this important work of Green Audit .We appreciate the co-operation to our team for completion of study.

Our special thanks are due to:

- President, Tika Ram Ed. Society, Sonepat.
- Principal, C.R.A. College Sonepat.
- Teaching & Supporting Staff of Institute.

For giving us necessary inputs to carry out this very vital exercise of Green Audit . We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

5. OVERVIEW OF INSTITUTE

With the dawn of independence, there was a dire need to improve opportunities for higher education for the underprivileged section of society; Ch. Tika Ram was inspired by the same spirit when he established ***Chhotu Ram Arya College*** in 1951 on the death anniversary of Ch. Chhotu Ram. The institute is following the ideas of Ch. Tika Ram and Ch. Chhotu Ram and its main objective are to uplift the down-trodden.

Ch. Tika Ram

Sir Chhotu Ram

The institute which claims to be the best for students is committed to provide a quality education through new methods and techniques. The college labs are well equipped and well furnished. One of the best libraries in the state, attracting voracious readers, has a rare collection of more than 30000 books in a unique feature besides 2000 books for competitive examinations.

Chhotu Ram Arya College is known for its great achievements, the students achieved tremendous success in games, cultural activities, and academics. Recently, the college authorities decided to launch different types of courses, including professional ones for the benefit of society. This is a step forward to academic excellence and towards providing the opportunity to the students and teachers of CRA College.

The campus comprises modern lecture theaters, state of art computer labs with more than 120 computers, and round-the-clock internet. The campus provides blanket wireless services (wi-fi) in the institute. One centralized fully AC soundproof Theatre & Multipurpose Hall with a sitting capacity of 200 Students have been completed with ultra-modern latest techniques.

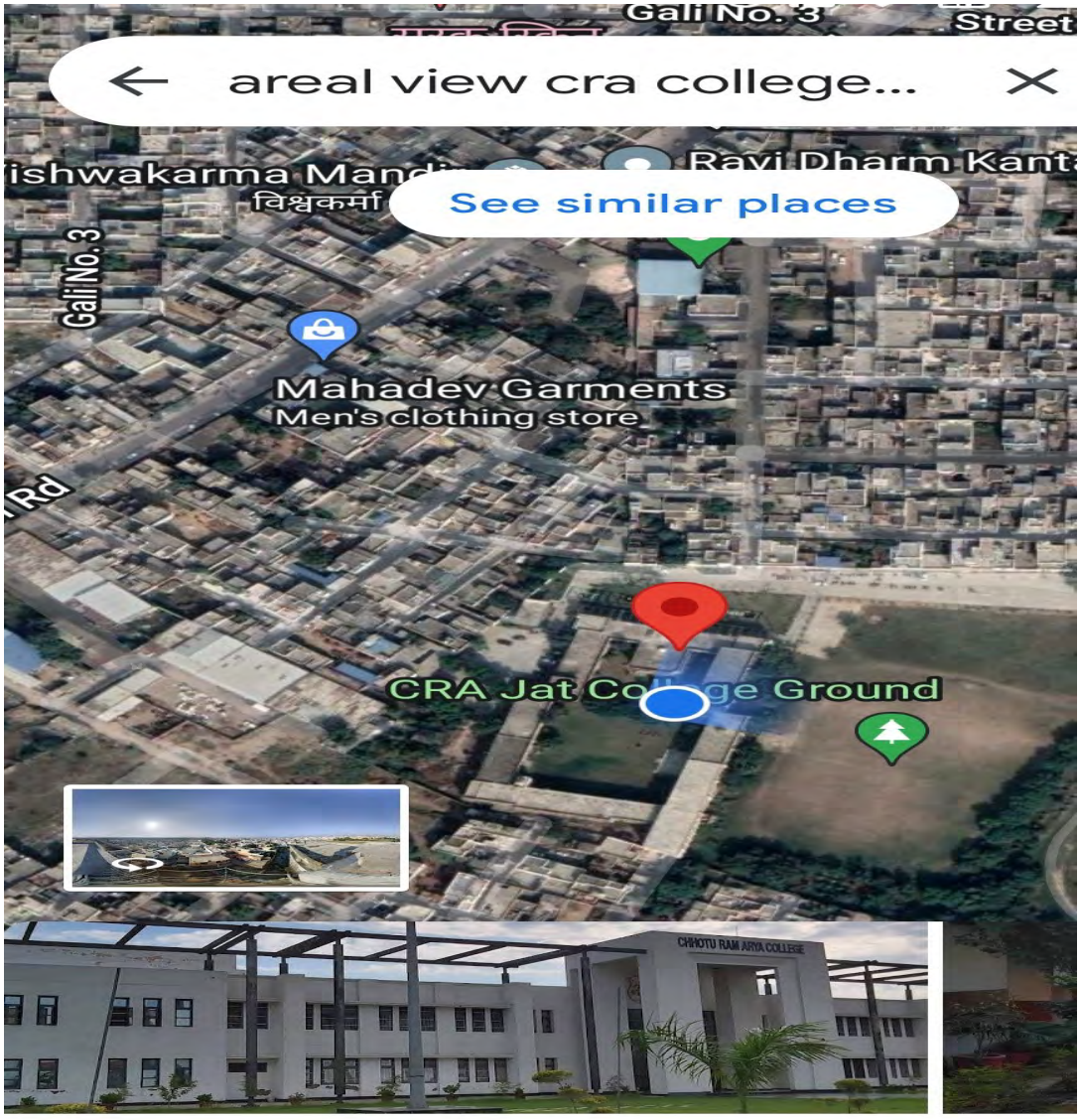
6. Aerial view of College:-

The Chhotu Ram Arya college is spread over a sprawling campus of about 12 acress land on Kakroi road, which is situated in the heart of Sonepat city. The Sonepat city is situated about 45 km. from the National Capital New Delhi and it is well connected by bus and train services with the National Capital. The campus of Chhotu Ram Arya Sonepat is situated nearly 1.5 km from the bus stand and 0.5 km. from the Railway station.

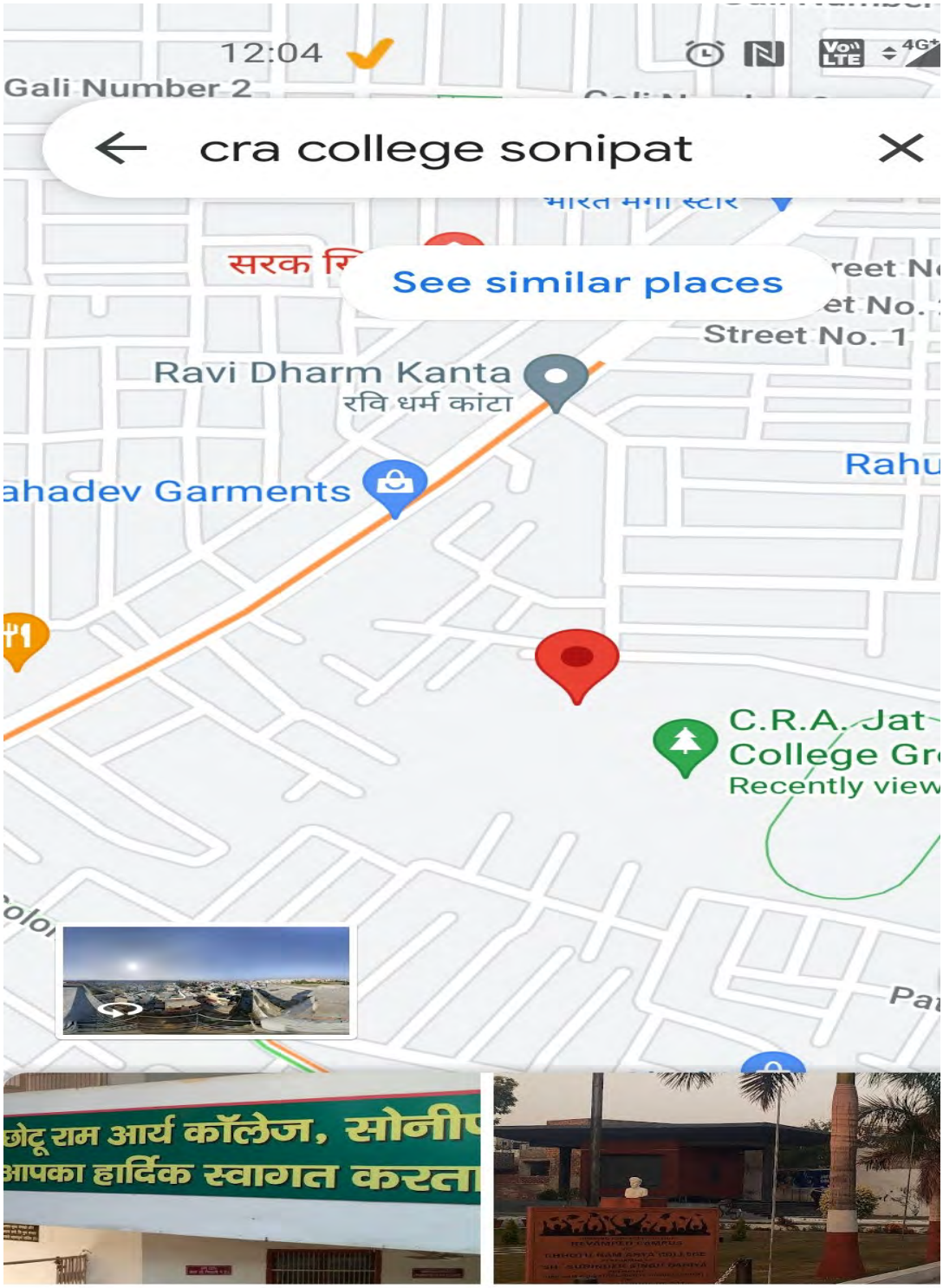
The geographical system coordinates colleges are:

Longitude- 77°0'26.78"E

Latitude- 28°59'10.28"N



7. Google map of C.R.A. College



8. Methodology

The purpose of the green audit of Chhotu Ram Arya College is to ensure that the practices followed in the campus are in accordance with the Green policy adopted by the institution. The methodology include: preparation and filling up of questionnaire, physical inspection of the campus, observation and revision of the documentation, interviewing key persons and data analysis, measurements and recommendations. Some data have also been taken from the students' research works carried out by various science departments of the college.

9. Audit Objective and Scope:-

Developing personal and social responsibility among the students for college campus and its environment and thereby make them sensitive to the needs of society and nation so as to adhere vision and mission of the college.

1. Environmental education through systematic environmental management approach.
2. Improving environmental standards.
3. To reduce carbon foot prints.
4. Curriculum enrichment through practical experience.
5. Sustainable use of natural resources in the campus.
6. To reduce the financial burden upon the college by reducing and reusing the resources.
7. To assess the water quality of soil and water.
8. To monitor energy/water conservation.
9. To monitor noise levels.
10. To reduce carbon foot prints.
11. To make and monitor the campus clean and green.
12. To assess the maintenance of Botanical garden.

10.Green Auditing and its benefits

The college has adopted the 'Green Campus' system for environmental conservation and sustainability. There are main three pillars i.e. zero environmental foot print, positive impact on occupant health and performance and 100% graduates demonstrating environmental literacy. The goal is to reduce CO2 emission, energy and water use, while creating atmosphere where students can learn and be health.

- Increasing employee awareness of environmental policies and responsibilities.
- Identifying cost-savings including those resulting from waste minimization.
- Evaluating training programmes and providing data to assist in training personnel.
- Providing an information base for use in emergency response arrangements.
- Assuring an adequate, up-to-date environmental database for internal management awareness and decision making in relation to plant modifications, new plans, etc.

11. Activities Conducted Related to Green Environmentin 2017-2018

S.No.	Date	Department/Faculty	Details of Activity
1	25-07-17	Dr. Narender Khatri/Principal	Plantation on the occasion of new session
2.	04-09-17	Zoology Deptt.	Lecture - Save Earth Save Species
3.	04-08-17	Zoology Deptt.	Lecture - Climate Change
4.	09-10-17	Physics	Poster Making
5.	10-11-17	Botany	Slogan Competition
6.	08-09-17	N.S.S.	Clean Drive Campus
7.	03-02-18	Physics	Essay writing on Green Earth
8.	04-10-17	Zoology	Poster Making on Diwali –Say no to Crackers
9.	16-09-17	Physics	Lecture –Ozone Layer
10.	20-10-17	N.S.S.	Tree Plantation
11.	31-07-17	N.S.S.	Really –Say no to plastic bags
12.	31-12-17	N.S.S.	Clean campus drive

Green Campus of the college

Tree plantation drive in the college campus

Eco club activities

Indoor and outdoor plants in the college campus









12. Land use data of C.R.A. College

CATEGORIES OF LAND USE AREA (sq.m.)

PLANTATION AREA, GREEN LAWNS AND GROUNDS 37800sq.m.

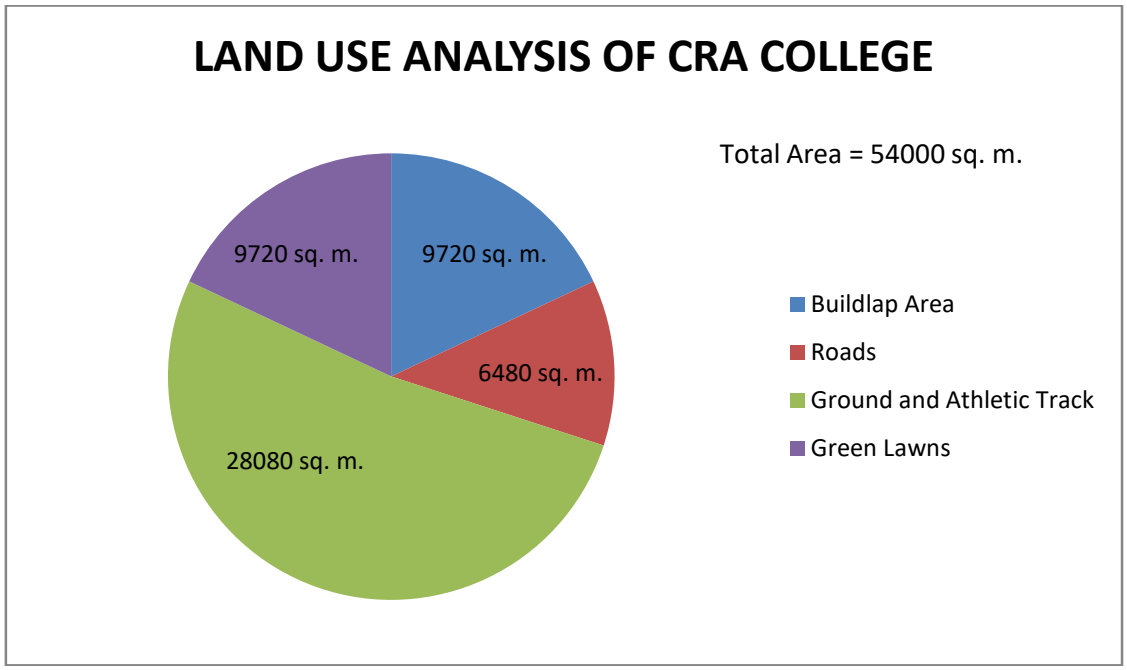
BUILT UP AREA (INCLUDE ROADS) 16200sq.m.

TOTAL AREA= 54000 sq. m.

The total area of C.R.A. College is54000 sq.m out of which the built up area (include Roads) is 30% (i.e. 16200 sq.m.) and plantation area including grounds is 70% (i.e. 37800 sq. m.).

Land use analysis at CRA College

The built up area of 18% (i.e9720 sq.m.) consists of the following regions as stated below for land consumption in built up area of CRA College:
The southern region of CRA is densely built up having Geography Labs. and auditorium.
The northern region comprises of: Administrative Block and Class rooms
The western region consists Chemistry Labs. and class rooms
The eastern region consists Physics ,Botany and Zoology Labs. and class rooms
Sports ground and athletic track is situated on east side of college building
Canteen is situated on west side of college building.



13. Green Audit Findings

For Green Audit following major areas (including their sub-sections) were covered and compliance/ initiatives under these areas were verified/ validated,

a) Good Daylight Design and Ventilation
b) Water Efficiency
c) Wastewater Management
d) Indoor Air Quality
e) Energy Management
f) On-site Energy Generation
g) Solid Waste Management
h) Green Belt
i) Green Programs (Green initiatives)

13.1 Good Daylight Design and Ventilation

a) Classrooms, laboratories, offices, library etc. have high ceiling, wide doors and large windows.

b) Building is designed in such a way that corridors and classrooms receive ample sunlight. Curtains are provided for laboratory windows to avoid glare. Natural light in the classrooms was about 70-85 lux.

c) Ventilation in classrooms is facilitated by windows and fans. Cross ventilation is facilitated due to large windows on both sides of some classrooms. Air conditioners are used in offices, computer laboratories and computer server rooms.

d) Exhaust fans are provided in washrooms, kitchen and chemistry laboratories.

13.2 Water Efficiency

a) Major water source for College is tap water, supplied by M.C. Sonepat and College also has two bore wells in the campus which is used for water withdrawal. As informed by College's water management team, daily water consumption for the entire campus when in full operation is 25 KL, which includes 5 KL consumption in academic area and 20 KL for gardening.

b) There are two water harvesting bore wells in which rain water of college building and grounds is dumped to raise ground water level

c) RWH system: rain water collected is used for recharging ground water through 2 recharge bores.

d) 2 water coolers connected with main RO plant are provided in College building as a source of safe drinking water. Audit team not found A.M.C. of RO plant.

e) Restrooms and canteen are water intensive areas. Water conservation faucets (non-concussive taps, aerator taps) are fitted in some washrooms. Dual flushing systems are not provided in the washrooms.

f) Dry and wet mopping is practiced for floor cleaning. Floors are mopped once a day.

g) As informed by College's water management team, tap water leakage is immediately attended to by the maintenance department.

h) Signage on water conservation were not seen in washrooms or near water purifiers.

i) Sprinkler system is provided in all gardens which leads to water conservation.

13.3 Wastewater Management

Wastewater is mainly generated from washing, toilet flushing, canteen kitchen and laboratories. Total 8 washrooms are provided in the College building (2 washrooms on each floor). Currently, sanitary wastewater generated is sent to underground safety tanks. There is no sewage treatment plant in the college.

13.4 Indoor Air Quality

Indoor Air Quality (IAQ) refers to the air quality within & around buildings and structures, it relates to the health and comfort of building occupants. Common indoor pollutants are listed as below:

● Carbon monoxide – Sources of carbon monoxide are incomplete combustion of fossil fuels

● Volatile organic compounds (VOCs) – VOCs are emitted by paints and lacquers, paint strippers, pesticides, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions etc.

● Carbon dioxide – Due to human respiration

● Particulate matter – Due to construction and maintenance activities, vehicular pollution

● Nitrogen Oxides- Due to vehicular pollution

a) Science laboratories and kitchen in the canteen use liquefied petroleum gas (LPG), a clean fuel.

b) In classrooms, the mode of ventilation is natural draft (through windows) and is enhanced by fans. Large windows and cross-ventilation are observed in corridors. Air conditioners are used in some offices and computer laboratories. ACs are serviced regularly to ensure indoor air quality.

c) Science laboratories are provided with exhaust fans so that the fumes are safely discharged outside the building.

d) Green belts have been set up in the campus area.

13.5 Energy Efficiency

Electricity:

a) Common electricity meter is provided for the entire campus. Electricity is provided by UHBVN Ltd. Electricity bills of July 2017 to July 2018 were available for review (average consumption 7000 units/ month). The areas of major consumption of electricity are: Tube Lights & LEDs 319, (30% LEDs) Fans (ceiling fans & wall fans) 187, Air Conditioners 16, Computers (desktops & laptops) 100, Projectors 12, RO system of 250 liter per hour.

b) Conventional tube lights, LEDs & fans are installed in classrooms, laboratories and library. For efficient energy consumption and saving on electric bill, College has initiated the process of replacing incandescent bulbs and tube lights with LEDs.

c) College has 16 air conditioners with two/ three/five -star ratings .

d Uninterruptible Power Supply (UPS) system is provided in computer laboratories for computers and servers. The UPS system is typically used to protect hardware viz. computers, data centres, telecommunication equipment or other electrical equipment when an unexpected power disruption could cause serious work disruption or data loss.

e) Reflectors are not provided for lights in the library and auditorium. Reflectors can reduce the number of lights required and hence electricity consumption.

f) All computers have LED screens; computers are shut down by turning off the main switch when not in use.

g) Common switches are provided for some tube-lights & fans. To avoid wastage of energy due to common area illumination, it is recommended to have separate switches.

h) Tube-lights and fans are switched off by students and staff when not in use. Instructions regarding switching off the electrical appliance were seen in laboratory notice boards. However, signage are not provided near electrical switch boards. Signage can encourage & help users to switch off lights and fans to save electricity.

13.6 On-Site Energy Generation

(Usage of LPG/ Natural Gas)

a) LPG cylinders are used mainly in canteen kitchen for cooking and in chemistry laboratories. Inventory of cylinders usage was not available for review. 1 cylinder of 19 kg generates 881.6 MJ (Mega Joules) of energy.

b) Campus has a diesel generator (DG) of capacity 62.5 KVA. DG set is used only in case of emergency when there is power cut-off. DG emissions are not monitored.

d) There is no Rooftop Solar panels installed on the terrace of College building.

13.7 Solid Waste Management

Solid waste generated from campus includes mainly paper waste, wet (food/ organic) waste and Ewaste.

a) Blue and Green covered/ pedal-pushed dustbins are placed in the premises. Waste bins are provided on each floor, in staff rooms, laboratories, washrooms, kitchen and in campus area.

b) Daily around 25-50 kg organic/ bio-degradable waste is generated in the campus which includes horticultural waste. Quantity of horticulture waste varies significantly due to seasonal variation, e.g. around 50-70 kg of horticulture waste is generated daily in February- March due to leaf fall.

c) College does not have vermicomposting unit for the treatment of horticulture waste .College is planning to install a new vermicomposting unit(10x1x1 m) for the treatment of horticulture waste generated in the campus.

d) Being a College with non- residential facility, the quantity of wet (food/ organic) waste generated in the premises is minimum. Biodegradable wet waste is mostly generated from the canteen. College has initiated the process of installing a composting unit of 10-15kg/ day capacity for the treatment of canteen waste and some horticulture waste. e) In other areas like classrooms, mostly paper waste and plastic wrappers are generated.

f) Segregation of wet and dry waste is practiced within the campus. However, there is no signage for promoting segregation of wet and dry waste.

A) Paper Waste Management

Being an academic institution, waste paper is one of the main solid wastes generated in the premises. College has taken steps to minimise and avoid paper usage.

a) Prints and photocopies are taken on both sides of the paper to avoid excess paper usage. Rather than photocopy, digitalisation (scanning) is practised.

b) College has two floor library with 50000+ books; journals, magazines, newspapers are also available in the library. There are no e-book facilities in the college library.

c) Internal notices and communications are through e-mail/ SMS. College has a Learning Management System (LMS) where notices are sent, exam results are displayed and attendance is recorded digitally.

d) Display Screen is required where notices can be displayed digitally.

e) There is no paper recycling machine in the college, paper waste is sent to local vendor for recycling.

B) E- Waste Management

E- waste is broadly comprised of discarded computer monitors, motherboards, mobile phones and chargers, compact discs, headphones, Printed Circuit Boards (PCB), televisions etc.

a) College is digitized to some extent. This includes 8 classrooms, library and administrative block etc.

b) E- waste is collected & stored in college campus and sent to authorised vendor for recycling/ disposal.

C) Plastic Waste

a) College strictly follows the guidelines regarding plastic usage and has prohibited the use of single use plastic e.g. carry-bags, glasses, spoons etc., in the campus.

b) As per the College guidelines, Canteen Contractor is prohibited to use plastic cutlery, instead paper plates and wooden spoons are used.

13.8 Green Belt/ Landscaping

a) As per the findings of internal green audit conducted by College, large trees include Peepal (Ficusreligiosa), Goolar (Ficusracemose), Pilkhan (Ficusvirens), Ashok (Saracaasoca), Jamun (Syzygiumcumini), Mango (Mangiferaindica), Kadamb (Neolamarckiacadamba), Bael (Aeglemarmelos), Gulmohar (Delonixregia), Champa (Magnolia champaca), KanakChampa (Pterospermumacerifolium), Semal (Bombaxceiba) and Neem (Azadirachtaindica) etc. Few trees were identified and confirmed during virtual tour.

b) Fruit bearing trees attract variety of insects like wasps, bees, ants and beetles thus increasing the biodiversity. Various field-based projects were assigned to students studying Environmental Science Course to assess the birds and butterflies in College Campus. Student survey showed that the campus has total of 26 different bird species and 7 butterfly species. The different tree species provide habitat to variety of bird species.

c) College has indoor plants in the building. Indoor plants have aesthetic appearance as well as health benefits.

d) Gardens are managed by 3 malis. Organic fertilisers and pesticides are used for plants if necessary.

13.9 Green Initiatives

Due to minimum consideration for environment & sustainability, the world is facing problems of ozone depletion, climate change, water scarcity and sustainable resource management. College organises guest lectures on environmental conservation, biodiversity etc. every year. College has demonstrated consistent commitment towards nature and environment. College has ‘Eco Club’ and the Garden Committee which offers wide spectrum of environmental and nature activities and platforms to enhance awareness and exhibit the relationship with nature. The National Service Scheme (NSS) and National Cadet Corps (NCC) of the college undertake projects for environment, rural development, education awareness, healthcare, etc. Various activities like cleanliness drive, tree-plantation, seminars and workshops are organised by ‘Eco Club’/ Garden Committee/ NCC/ NSS increase the awareness and sensitivity among students and faculty. Visit to biodiversity parks, wetlands and other places of ecological importance are also being arranged by Eco Club. In the current scenario when academic activities are taking place virtually, College arranges webinars, online conferences pertaining to environment. Records of all activities are being maintained by the College which were available for review.

14. Faunal diversity in the campus

C.R.A. College is located in Sonepat District of Haryana is an industrial city known for cycle industry. It has got extreme climates.The highest temperature is recorded 48 C just prior to the onset of monsoon (around May- early June). Summer rain is normal, and is principally caused from late July to August by the moisture-laden South-West Monsoon, on striking the Himalayan foothills of the north. The climatic condition of the Sonipat district as a whole and CRA in particular is very suitable for a wide variedly of flora and fauna to support its rich biodiversity. The faunal Diversity of CRA campus has been studied and documented as below:

Table: Common and Scientific names of birds and animals

S.No	Common Name	Scientific Name
1.	Myna	Acridotheres Tristis
2.	Bank Myna	Acridotheres Ginginianus
3.	House Sparrow	Passer Domesticus
4.	House Crow	Corvus Splendens
5.	Cuckoo	Cuculidae
6.	Snake	Naja Naja
7.	Yellow Wasp	Ropalidia Marginata
8.	Butter Fly	Danaus Genutia
9.	Common Woodshrike	Tephrodornis Pondicerianus
10.	Pied Myna	Gracupica Contra
11.	Red-Vented Bulbul	Pycnonotus Cafer
12.	Skylark	Aluda Gulgula
13.	Garden Tiger Moth	Arctia Caja
14.	Little Owl	Athene Brama
15.	Oleander Moth	Syntomeida Epilais
16.	Slender Skimmer	Orthetrum Sabin.

15. List of Plant present in the Campus including Herbal Garden

List of some plant species present in the campus is given below

1. Silver Oak (Grevillearobusta)
2. Dhak (Buteamonosperma)
3. KanakChampa (Pterospermumacerifolium)
4. Red Gum (Eucalyptus australensis)
5. Neem (Azadirachtaindica)
6. Lemon (Citrus limon)
7. Bottle Palm (Roystonearegia)
8. Jamun (Syzigiumcumini)
10. Peepal (Ficus religiosa)
11. Gulmohur (Delonixregia)
12. Mango (Mangiferaindica)
13. Bottle Palm (Roystonearegia)
14. Toot (Morusalba)
15. Ashok (Polyalthialongifolia)
16. Goolar (Ficusracemose)
17. Champa (Plumeriarubra)
18. Shisham (Dalbergiasissoo)
19. Harshingar (Nyctanthes arbor-tristis)
20. Pilkhan (Ficusvirens)
21. Bottle Brush (Callistemon spp)
22. Maulsari (Mimusopselengi)
23. Kadamb (Neolamarckiacadamba)
24. Guava (Psidiumguajava)
25. Ficus Panda (Ficus panda)
26. Amla (Phyllanthusemblica)
27. Chinese Lemon (Citrus spp.)
28. Jungle Jalebi (Pithecellobiumdulce)
29. Bargad (Ficusbenghalensis)
30. Amaltas (Cassia fistula)
31. Mahua (Madhucalongifolia)
32. Bael (Aeglemarmelos)
33. Siris (Albizialebbeck)
34. Imli (Tamarindusindica)
35. Kachnar (Bauhinia variegate)
36. Pomegranate (Punicagranatum)
37. Pilkhan (Ficusvirens)
38. Copperpod (Peltophorumpterocarpum)
39. Babool (Acacia nilotica)
40. Yellow Oleander (Thevetiaperuviana)
41.Arjun (Terminaliaarjuna)

16. Recommendations

1) College has implemented several green initiatives such as rainwater harvesting, herbal garden, plantation derives etc. but some more initiatives like vermicomposting, solar PV system and sewage

treatment are required in promoting sustainability. College should develop monitoring mechanism and generate & maintain the performance records of the green infrastructure.

2) Water consumption can be reduced further through various conservation methods. Replacement of all old water faucets with water saving faucets such as pressmatic taps, aerator taps, jet sprays etc. can save water and help in minimising the water footprint.

3) Treated sanitary wastewater can be recycled for toilet flushing by providing dual pumping system.

4) College should test water quality at regular intervals, develop water demand/ balance diagram and a plan delineating water conservation practice.

5) Records of pipe/ water taps leakage complaints should be maintained as a part of Standard Operating Procedures (SOPs).

6) Solid waste generated in campus includes paper waste, E-waste, plastic waste, food waste from canteens and dry recyclable waste from gardening. Paper waste and E-waste are given to approved agencies for recycle/ disposal. Inventories & management processes of all waste (including food and dry recyclable waste) should be well documented.

7) Signage regarding water conservation, reduction & segregation of plastic waste, reduction in food waste, waste segregation can be put up near drinking water facilities and other places to create awareness among staff and students.

8) Mirror optic reflectors can be retrofitted on existing tube lights as the reflectors can spread light to relatively large areas. Control sensors can help to reduce consumption by automatically dimming lights when people are not around.

9) Every classroom and laboratory with central switch board can have a diagram linking location of a tube light, fan etc. with corresponding switch. This will ensure that correct fitting is switched on/ off and can save time & unnecessary operation. The awareness regarding energy management could be improved by encouraging students to help in monitoring energy consumption and by integrating energy education into classroom learning.

10) College is procuring LED lights and electrical equipment with star ratings. SOPs should be prepared and followed for purchasing green equipment, equipment star rating and eco-friendly materials.

11) It is recommended that indoor air quality, noise levels and water quality to be monitored once in 6 month and records to be maintained as per IS: 10500. https://scclmines.com/env/DOCS/NAAQS-2009.pdf http://cgwb.gov.in/Documents/WQ-standards.pdf

12) It is recommended to measure emissions from diesel generator and ambient air quality at least once a year.

13) Air quality, water quality, noise level monitoring within College campus can be included as shortterm projects under course curricula. This will help the students to get first-hand experience in environmental monitoring and also help College to maintain records of the quality of important environmental attributes. Additional credits can be considered for students who are part of the project team.

14) There should be a schedule for safety training, fire-fighting drills and mock drills. Records of these activities should be maintained.

15) Fire hydrants and fire alarm systems can be installed in the College. Fire hydrant and alarm system can be commissioned after receiving the NOC.

16) Fire safety drills should be conducted at regular intervals and their records should be maintained.

17) Safety, Health and Environment (SHE) groups can be formed which will include staff members and students. They can have regular meetings, and suggestions to be recorded and implemented if found suitable.

18) Emergency escape route plans should be provided on each floor. Floor plan should be clearly visible with an emergency exit and assembly point.

19) Records of green and environmental initiatives conducted by College should be maintained properly which will include aim & objective of the initiative, details in brief and the outcome.

17. Conclusion

This audit involved extensive consultation with all the campus team, interactions with key personnel on wide range of issues related to Environmental aspects. Chhotu Ram Arya College has Environmental Committee for sustainable use of resources. The audit has identified several observations for making the college campus premise more environmental friendly. The recommendations are also mentioned with observations for campus team to initiate actions. The audit team opines that the overall site is maintained well from environmental perspective. There is no major observations but few things are important to initiate urgently are solar panel installation, vermin composting, water saving faucets, waste management records by monthly inventory of hazardous waste, water balance cycle and periodic inspection of buildings housekeeping and environment policy.

Niranjan Singh
SDO, Horticulture, Maharshi Dayanand University
Rohtak

Dr. J.S. Phor
Associate Professor/Physics

Dr. Seema Kuhad
Assistant Professor/Zoology