SHAHEED RAJGURU COLLEGE OF APPLIED SCIENCES FOR WOMEN, UNIVERSITY OF DELHI, DELHI-110096

ENVIRONMENT AUDIT REPORT

2022

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

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1. Introduction:

Shaheed Rajguru College of Applied Sciences for Women (SRCASW) presents a comprehensive environmental audit report on its carbon footprint. This review report is in response to its effort to reduce Green House (GHGs) gas emissions (primarily CO_2). The college thus realizes its role in understanding the effects of global warming and climate change and participates in sustainable development. The institute takes the initiative in conducting studies by collecting GHG inventories, which form the baseline for measuring the progress and provide a foundation for setting and meeting the CO_2 emission reduction targets. These inventories are summarized in the audit report which provides opportunities for building cost-effective GHG reduction strategies, for instance, decentralizing its power demand by installing solar panels; enhancing carbon sequestration by planting more trees. The present audit report is designed to give readers a comprehensive, easy-to-read and comparative review of the areas contributing to the carbon footprint and strategies to manage them. This review report covers areas such as energy, water, waste and fossil fuel consumption during transportation. The environment audit report is thus inclined to make SRCASW assess general practices in terms of the impact on the environment. The report also aims to spread awareness of how strongly the institute is involved in curtailing those practices.

2. Goals of Environment audit:

Following are the goals and ambitions of the reports:

1. To create a baseline survey for comparing and measuring the progress.
2. To examine the current practises and their contribution in terms of CO_2 equivalence.
3. To compare, innovate and install green and alternative sources of energy.
4. To reduce dependencies on energy obtained from fossil fuels.
5. To identify and mitigate the problems of waste disposal, and water management practices.
6. To enhance the growth of the green cover of the campus.
7. To enhance environmental consciousness for sustainable use of resources.
8. To identify and assess environmental risk, if any, in the college.

3. Methodology:

The data was collected using survey forms from 1) Students, 2) Teaching Staff and 3) Non-teaching staff from all the departments, administrative buildings canteen and hostels. The data has been collected from the final batch comprising approximately 300-400 students. The total per capita CO2 emission has been calculated the for a total strength of the college which comprises 1765 students (1652, day scholars and 115, hostlers), ~130 teaching staff, and ~30 non-teaching staff members. The number of working days was taken from February 2022, when the classes were resumed after a covid, to December 2022. The month of January was

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for final years and the data has been collected likewise. The Audit report is carried out for i) CO_2 emission from transportation (Carbon auditing), ii) CO_2 emission from energy consumption (Energy auditing), iii) GHG emission from wastewater and solid waste (Water and Waste auditing), and iv) other potential CO_2 sinks in the college.

1. CO_2 emission from the Transportation

A carbon footprint is the total greenhouse gas emissions caused directly and indirectly by an individual, organization, event or product. It is calculated by summing the emissions resulting from every stage of a product or service's lifetime. The calculations, formulae and results discussions are supported with the help of tables and graphs. The data was collected from (i) the academic block, (ii) the administrative building, and (iii) the canteen and hostel area. In the academic block, the data were collected separately for each department.

1.1 Component of the Calculations:

The net kg CO2 equivalence has been calculated using the data and equivalence constants for various fuel types. The data was collected using Google form surveys that were circulated among students, teaching and non-teaching staff in all the departments.

Activity (total fuel consumption in L) * Emission Factor (kg of CO_2 per litre of fuel) = CO_2 Equivalence (CO_2e) of emissions.

Fuel consumption per person = Distance (km) * Avg. fuel consumption (L per km)**

1. Average fuel consumption per km travel = 0.05 kg CNG
2. Average Diesel consumption per km travel = 0.07 kg Diesel
3. Average Petrol consumption per km travel (2 wheeler) = 0.03 kg Petrol
4. Average Petrol consumption per km travel (4 wheeler) = 0.1 kg Petrol
5. Travel by metro per km travel = 0.065 kg CO2 per commuter
6. Average travel by e-rickshaw per day = 4 km per person

Annual kgCO_2e Consumption of SRCASW through transportation= 1545.7 kg CO_2e, or ~129.0 kg CO_2e/month

Table 1.1. Total distance (km), total fuel consumption (L) and total kgCO2 equivalence emission of the college (academic and administrative blocks).

Table 1.2. The breakup of the (a) total distance travelled by 4-wheelers, 2-wheelers and public transportation, and the (b) total fuel (petrol, diesel, and CNG) consumed by the administrative and academic blocks of the college.

Parameters	Academic	Administrative	Total
Total Distance (km)	19586	1117	**20703**
Total Fuel (L)	13870	1010	**14880**
Total kgCO2 equivalence emission	1387	101	**1488**

Break-up of the distance, and the amount of CO2 consumption (in kgs) travelled by 4-wheelers, 2-wheelers and public transportation,

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

Department	Distance by 4 wheeler	CO2 (kg) for 4 wheelers	Distance by 2 wheeler	CO2 (kg) for 2 wheelers	Distance by public transport	CO2 (kg) for public transport
Academic	1547	181.44	577	52.096	17462	1152.762
Administrative	268	31.02	499	46.906	350	23.07
Total	1815	212.46	1076	99.002	17812	1175.832

(b)

Fuel-wise distribution of total distances (km)				
Department	**Petrol (L)**	**Diesel (L)**	**CNG (kg)**	**Electric**
Academic	1142	345	4978	13121
Administrative	699	0	148	270
Total	1841	345	5126	13391

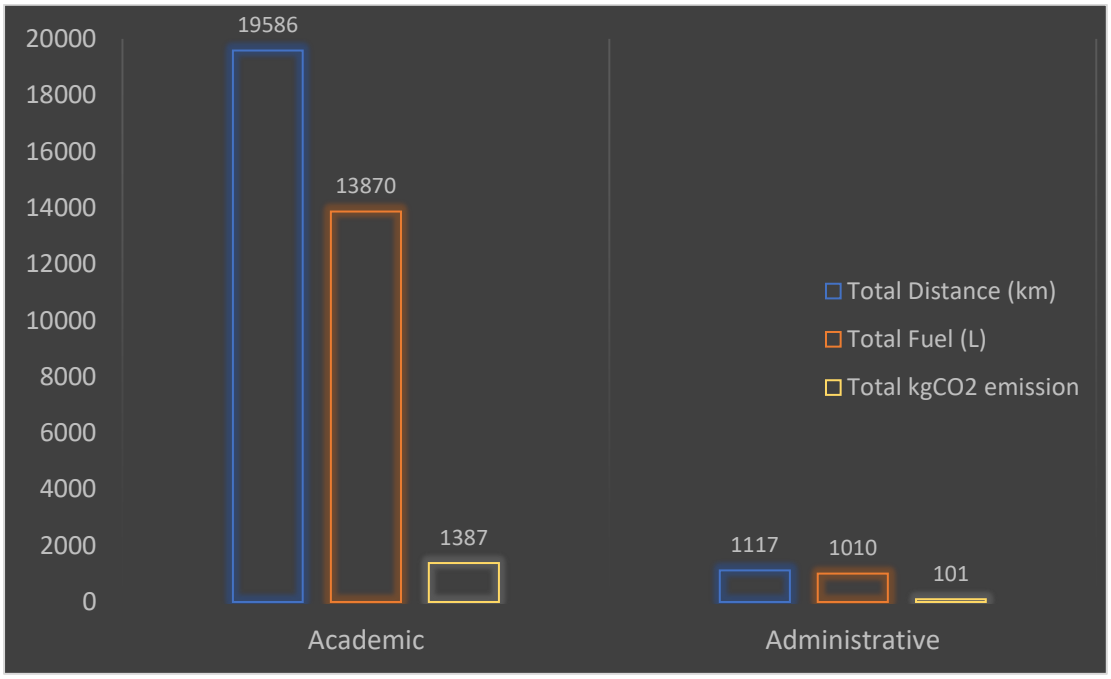
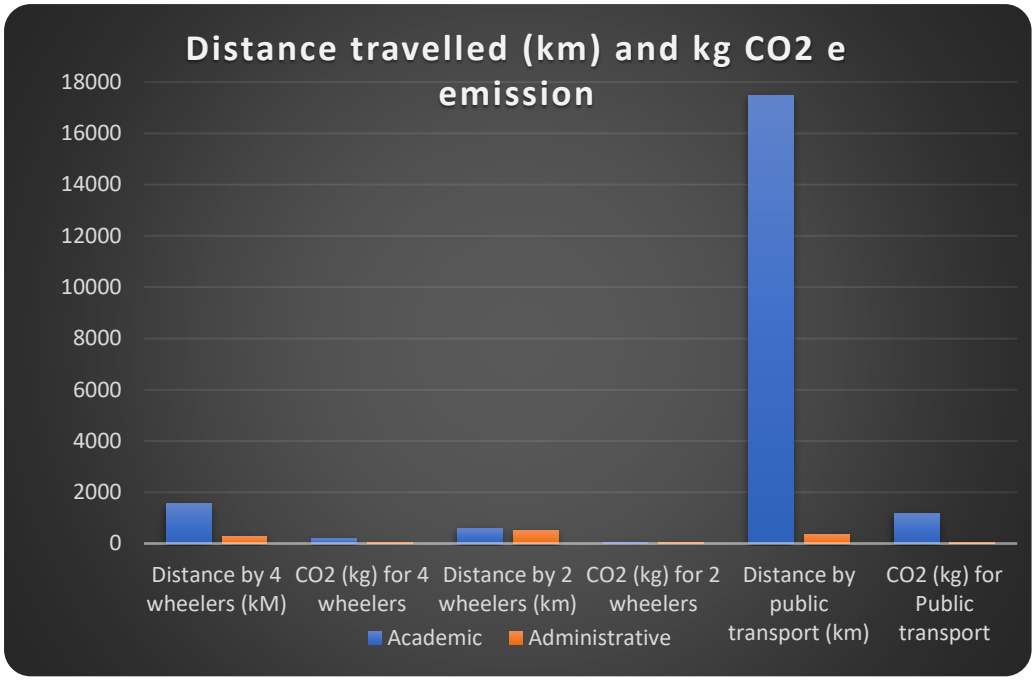


Figure 1.1. Bar representation showing total distance (km), total fuel consumption (L) and total kgCO2 equivalence emission of the college (academic and administrative blocks).

(a)

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.



(b)

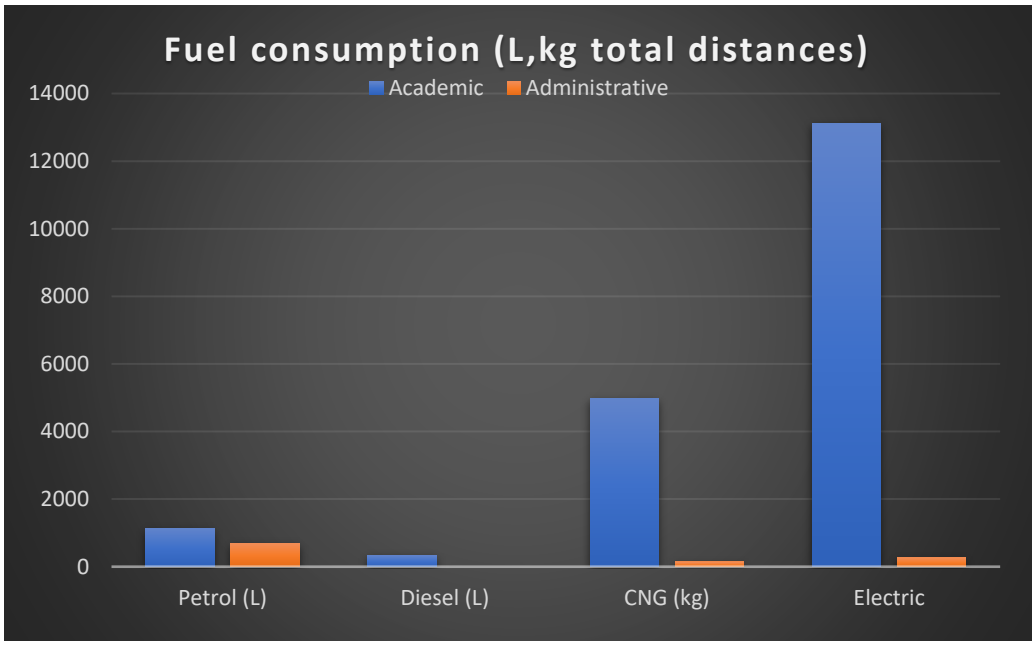


Figure 1.2. The breakup of the (a) total distance travelled by 4-wheelers, 2-wheelers and public transportation, and the (b) total fuel (petrol, diesel, and CNG) consumed by the administrative and academic blocks of the college.

1.2 Results and Discussion:

The total annual CO_2 emission from transportation for the college is ~1488 kg of CO_2e or ~1.5 tonnes of CO_2e. The average CO_2 emission from transportation per month is ~124 kg/month. A small difference of ~3 % in CO_2 emission is observed when compared to last year's report (Ref. report 2020-2021). The results maintain the maximum CO_2 contribution from public transportation when compared to previous reports. Majority of students, non-teaching staff

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members, and a few teachers on average commute daily by public transportation. Thus, public transportation is the main cause of the college's carbon footprint, followed by 2-wheelers and 4-wheeler private vehicles.

2. CO_2 emission from the Electricity

The kg CO_2 emission from electricity is remotely generated and therefore indirect. The fossil fuels consumed to generate electricity are a major contributor to GHGs. The electricity in SRCASW is supplied by the state electricity board which comes from thermal power-based grid electricity units. The emission factor for coal has been taken to calculate the amount of CO2 emission by electricity consumption. The data had been collected for i) academic, ii) administrative buildings, and (iii) hostels. The electricity consumption was collected in three different categories which are as follows:

Category-I: AC (Variable refrigerant flow (VRF); non-VRF), Fans, and Tubelights.

Category-II: Desktop Computers

Category-III: Electrical and Electronic gadgets, Instruments (heavy and light machines), Charging devices (Laptops, mobile phones), photocopier machines, printers, bulbs, microwaves, and refrigerators.

2.1 Component of the Calculations:

Emission Factor for electricity produced by coal = 0.975 kgCO_2e/kWh

Activity (total electricity consumption in kWh) * Emission Factor (kg of CO_2 per kWh) = CO_2 Equivalence (CO_2e) of emissions.

kWh/month = (Rating in Watts/ 1000 * usage in no. of hours per day * number of working days in a year)/12 months

Table II.1. Department-wise consumption of electricity by categories I, II, and III.

Departments	Sub-divisions	Category-I (kWh/day)	Category-III (kWh/day)
Academic	Biochemistry	4602.1	14.22
	Biomedical		31.3
	Chemistry		9.38
	Computer Science		176.36
	Electronics		83.22
	Food Technology		60.38
	Instrumentation		111.72
	Mathematics		91.4
	Microbiology		3.1
	Management		131.44
	Physics		44.38
	Psychology		4.88

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

	Statistics		35.34
Administrative building	Principal's room, account section, the library, and non-teaching staff offices.		134.32
Hostel	Quarters (a warden and a caretaker). Student's rooms.		7.14
TOTAL		4602.1	2398.1

S.No.	Name of the Department	Category-II Computer Numbers	50Wh assuming the computers run for 2 h per hour on average and 150Wh for 6 h by the computer science department (Wh/day)
1	Biochemistry	3	150
2	Biomedical Science	8	400
3	Chemistry	3	150
4	Computer Science	125	18750
5	Electronics	55	2750
6	Food Technology	4	200
7	Instrumentation	60	3000
8	Maths	65	3250
9	Microbiology	2	100
10	Management & BFIA	93	4650
11	Physics	28	1400
12	Psychology	3	150
13	Statistics	25	1250
14	Admin Block	88	4400
15	Hostel	1	150
	Total		40750

For category III it has been assumed that on average 1/3rd of the total computers work each day, therefore the total consumption is calculated as 13.6 kWh/day.

Break up of the electricity consumption by category I electrical equipments.

S.No.	Equipment	KWh / Day
1	VRV AC Units	3580.8
2	Non-VRV AC Units	396
3	Fans	382.72
4	Tubelights	242.496

2.2. Calculations:

Total Electricity consumption per day = Category I + Category II + Category III

Total Electricity consumption of SRCASW per day 50453.5 kWh

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

Total CO_2e emission of SRCASW per day = 49,192.2 kgCO2e

Total annual CO_2e emission of SRCASW per month ~1476 tonnes CO_2e

Figure 2.1. Distribution of electricity consumption for CATEGORY-I (kWh per month) in different departments.

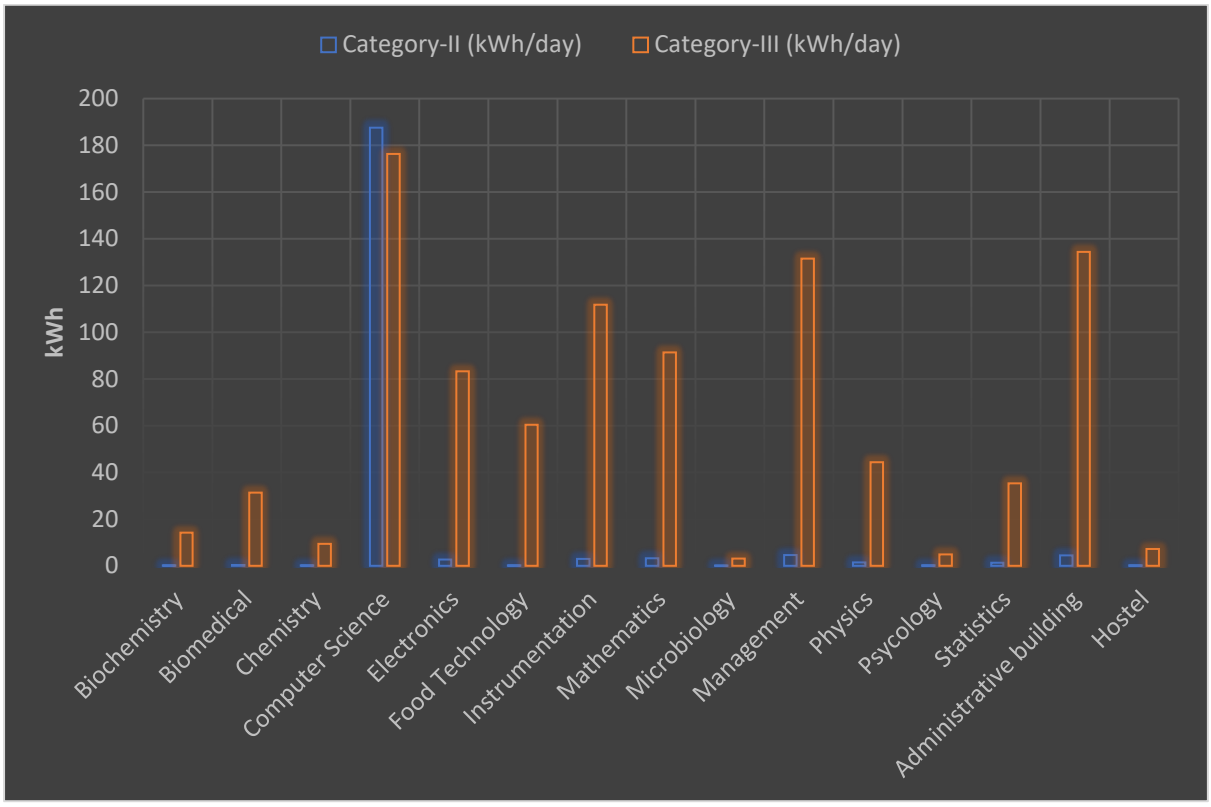

Figure 2.2. Distribution of electricity consumption for CATEGORY-I (kWh per month) in different departments.

2.3. Results and Discussions:

The total kg CO_2 emitted due to electricity consumption has been reported in kWh per month. This amounts to 1475.8 tonnes of CO_2 per month which is a 95 % increase in the amount of CO released from the last year (ref. report 2019-2020). The computer science department, followed by the mathematics department shows the highest consumption of electricity in Category II; the hostels and food technology departments show the highest electricity consumption in Category III

3. GHG emissions from Waste Water and Solid Waste

This section covers 3.1. Water Auditing, and 3.2. Waste Auditing. The water auditing covers the total water consumption of the college and the N_2O and CH_4 emissions from the wastewater treatment unit. The N_2O and CH_4 are released from the nitrification and breaking of the organic compounds, respectively during the disposal of the wastewater. The N_2O and CH_4 emissions have been calculated by taking into account per person-day contribution in generating wastewater. The contribution of the day scholars, teaching and non-teaching staff

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who stay only during working hours in the college has been considered 50 % of the hostlers who are living on the campus.

The GHG emission for the waste has been estimated by calculating the CH_4 emission per kg of solid waste. The CH_4 is released from solid waste disposal at the dumping site.* In the current waste audit report, solid waste (kgs) included plastic wastes, sanitary, glass-metal scraps, other dry waste, and miscellaneous waste. The paper waste and e-waste are recycled 100 % by the college and are collected by licensed and authorized manufacturers. Also, wet waste is managed through composting in the college. Hence, they were not included while calculating the solid waste.

3.1. Water Audit:

The water audit has been done for the whole college by collecting data from the different sections. The sections include all the departments in the academic block, the administration building, and the hostels. The average number of days has been taken from January to February 2022 for the final semester students and for the whole college from February to December 2022.

For calculating the kgN_2O and $kgCH_4$ equivalence emission, sanitation, laboratory, and miscellaneous water have been taken into account.

3.1.1. Component of the Calculations:

Emission Factor for N_2O per person-day for generating wastewater = 0.09 kgN_2O/person-month

Emission Factor for CH_4 per person-day for generating wastewater = 9.0 $kgCH_4$/person-month

The total number of persons in college * Emission Factor * the number of days = Total kgN_2O and $kgCH_4$ per year.

Table 3.1. Water consumption (L/month) of different departments and blocks of SRCASW.

Name of the department	Sanitation Water Consumption (L/day)	Laboratory water consumption (L/day)	Drinking water consumption (L/day)	Miscellaneous (L/day)	Total Consumption of water (in L/day)
Biochemistry	40	750	50	140	980
Biomedical Science	50	500	60	190	800
Chemistry	75	950	65	230	1320
Computer Science	80	0	40	120	240
Electronics	70	25	30	100	225

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

Food technology	50	50	20	70	190
Instrumentation	200	80	100	310	690
Mathematics	200	90	50	250	590
Microbiology	30	0	10	60	100
Management Studies and FIA	1038	0	47	1085	2170
Physics	260	10	130	391	791
Psychology	35	0	200	0	235
Statistics	150	20	60	210	440
Administrative	3316	0	50	140	3506
Hostel	4100	0	60	190	4350
Canteen	0	1	--	250	251
TOTAL	9694	2225	972	3736	16627

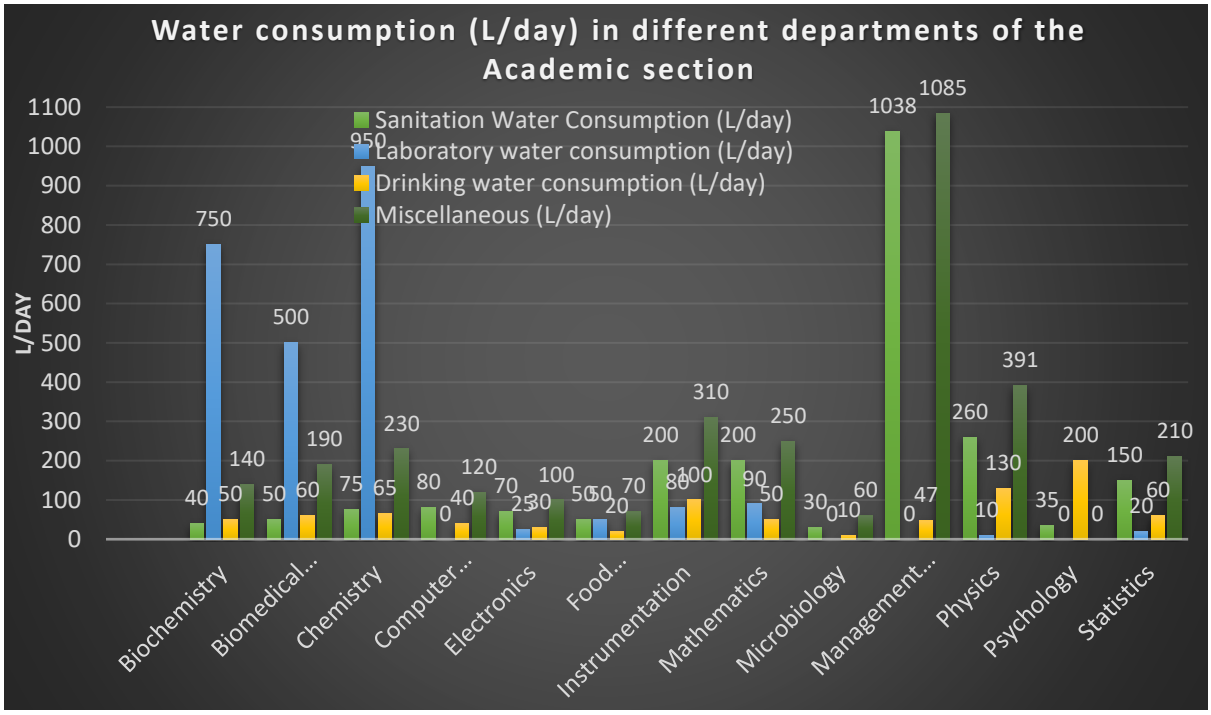

Fig. 3.1. Water consumption break-up (L/day) for the different departments of the academic block.

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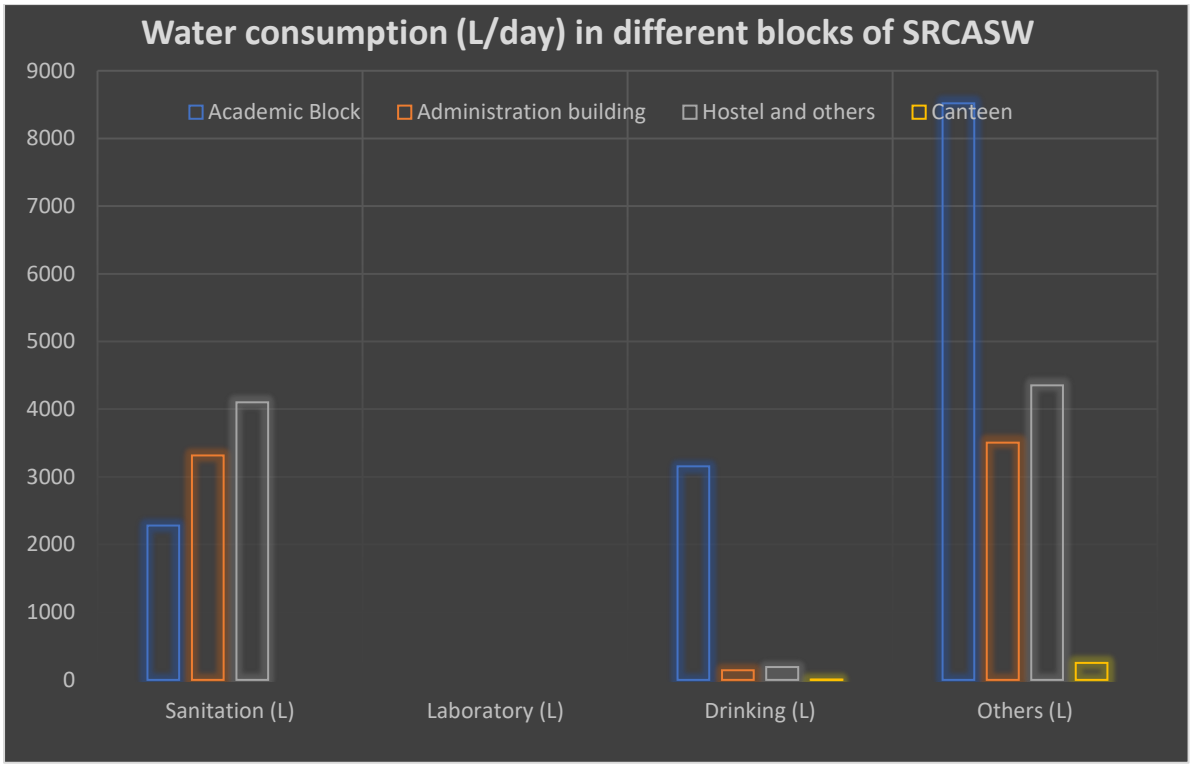


Fig.3.2. Water consumption distribution (L/month; sanitation, laboratories, drinking, others) in the different blocks of SRCASW.

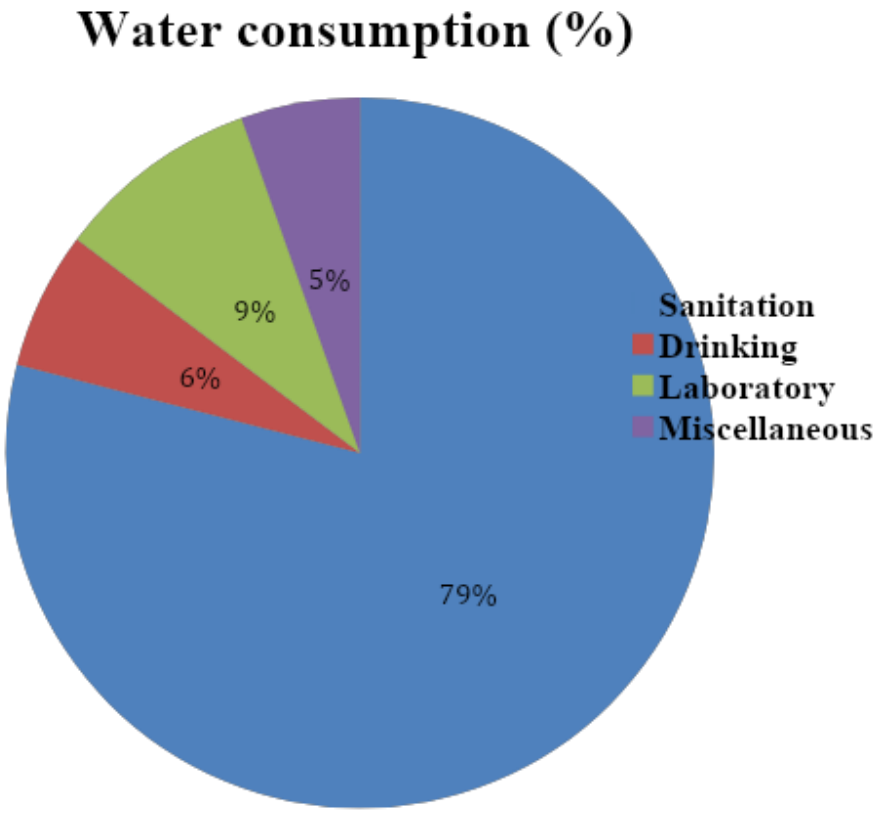


Fig.3.3. Pie-chart representation of Total water consumption (%) of SRCASW for different purposes (sanitation, laboratories, drinking, others).

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

3.1.2. Results and Discussion:

The total water consumption of SRCASW is 16,627 L per day. This is ~96 % increase than 2020-2021. The increase in consumption is because the college resumed its full strength after covid. The results show maximum consumption of water happening in sanitation (79%), followed by miscellaneous (5%), laboratory (9%), and drinking (6%). The maximum consumption of water for sanitation, laboratory and drinking is reported from the academic block; the highest consumption of water in the academic section comes from the management department, followed by the chemistry department. It is due to more number of students and water consumption for laboratory purposes.

3.2. Waste Audit:

The waste audit has been done for the whole college by collecting data from the different sections. The sections include all the departments in the academic block, the administration building, and the hostels. The average number of days has been taken as 60 days (two months) for the students, 120 days (4 months) for the administration, and 360 days (12 months) for the wardens and caretakers staying in the hostel premise. The variation in the number of days is because of the irregular lockdown during 2021. The $kgCH_4$ emission is calculated from the wet waste generated by the college, which forms the part of sewage treatment plants (STPs). The food waste is used in the composting units of the college.

3.2.1. Component of the Calculations:

Emission Factor for CH_4 for solid waste disposal (SWD) = 0.9 $kgCH_4$

Activity (kgs of solid waste per year) * Emission Factor = Total $kgCH_4$ per year.

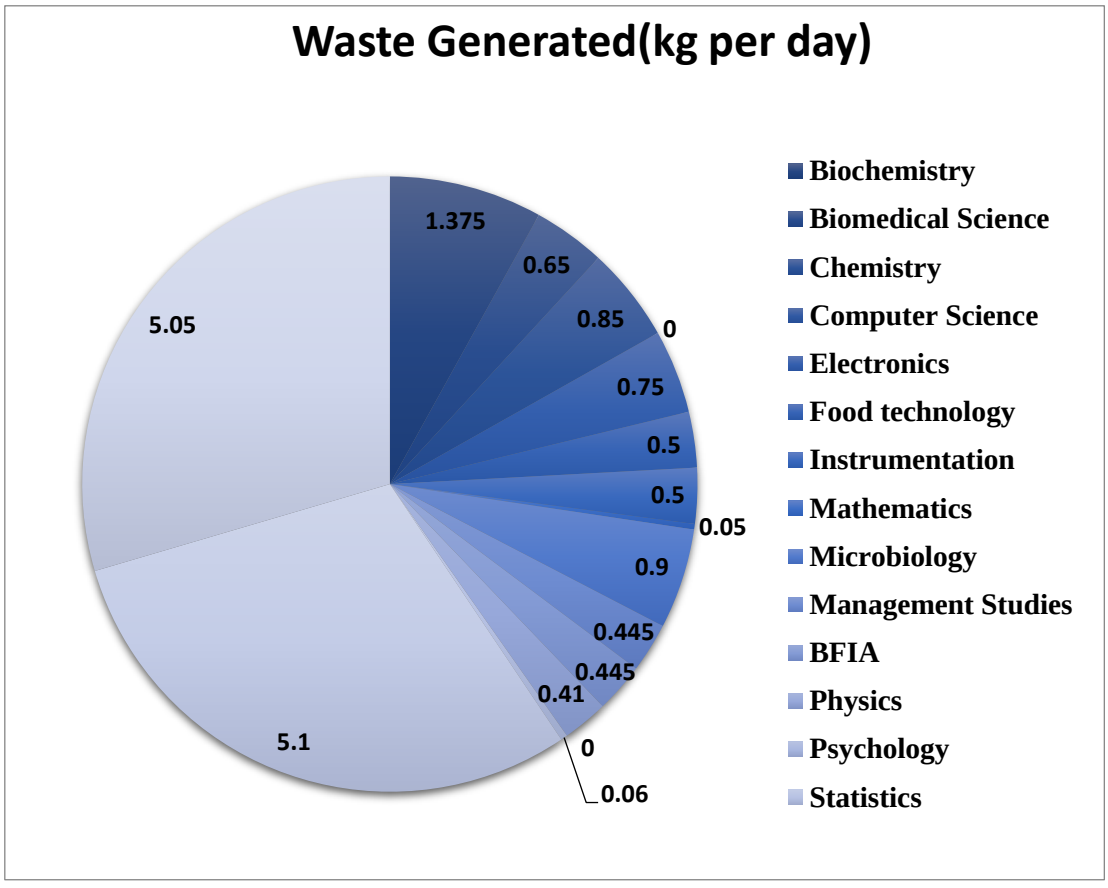
Table 3.1. Distribution of the waste generated through different processes by the departments of SRCASW.

Departments	Waste Generated (Kg/day) Total	Paper waste (gm)	Sanitary waste (gm)	Plastic waste (gm)	Lab waste							Total
					Glass (gm)	E-waste (gm)	Dry/ solid (gm)	Wet(mL)	Needle	Biological Waste /Food Waste Waste	Others	

Biochemistry	0.5				nil	nil	0.1	0.1	nil	Nil	0	0.7
Biomedical Science	1.5				nil	nil	0.3	0.1	0	nil	0	1.9
Chemistry	1.2		0.45	NA	0.25	NA	0.5	NA	NA	NA	0	2.4
Computer Science	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Electronics	0.75	0.25	NA	NA	NA	0.5	Dry	NA	NA	NA	NA	1.5
Food technology	2	0.1		0.05	0.05		0.3	1.0	0	0.5		4
Instrumentation	2.25				0.5	0.5	0.75	0.5	NA	NA		4.5
Mathematics	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA		0.2
Microbiology	0.9				0.2		0.5	0.2	Nil	Nil		1.8
Management					0	0	1.78	0	0			1.78
BFIA					0	0	1.78	0	0			1.78
Physics	0.65	0.8	0.3	0.2	NA	0.1	1.05	1	NA	0.1		3.2
Psychology	0.5				Nil	Nil	Nil	Nil	Nil	Nil		0.5
Statistics	0.2	NA			NA	NA	NA	NA	NA	NA		0.2
Administrative building						--	-	0.5	-	-	-	0.5
Hostels						--	-	0.5	0.5	10	-	11
Staff and Warden's quarters						-	-	0.5	0.5	6	-	7
Canteen						-	-	1	1	3		5
Total	10.65	1.15	0.75	0.25	50.95	1.1	5.33	5.2	2	19.6	0	97.03

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

Blocks			WASTE GENERATED			TOTAL	
	Glass (kgs)	E-waste (kgs)	Dry/solid: Paper/copies/files/register (kgs)	Wet(L)	Biological Waste/Food (kgs)		Total
Administrative Block	-	-	500 g	-	-	500 gm	0.5
Hostel	-	-	500 g	500 g	10 kg	11 kg	11
Staff quarters/Warden's quarters	-	-	500 g	500 g	6 kg	7 kg	7
Canteen	-	-	1 kg	1 kg	3 kg	5 kg	5



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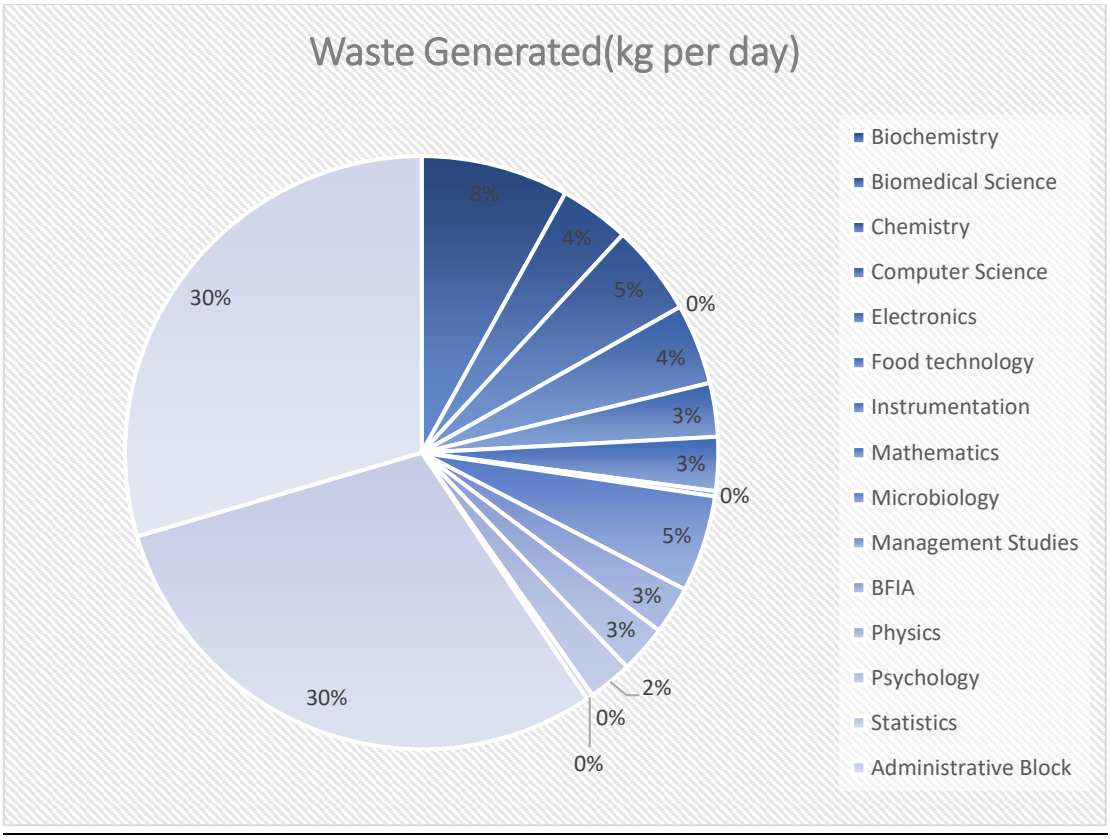
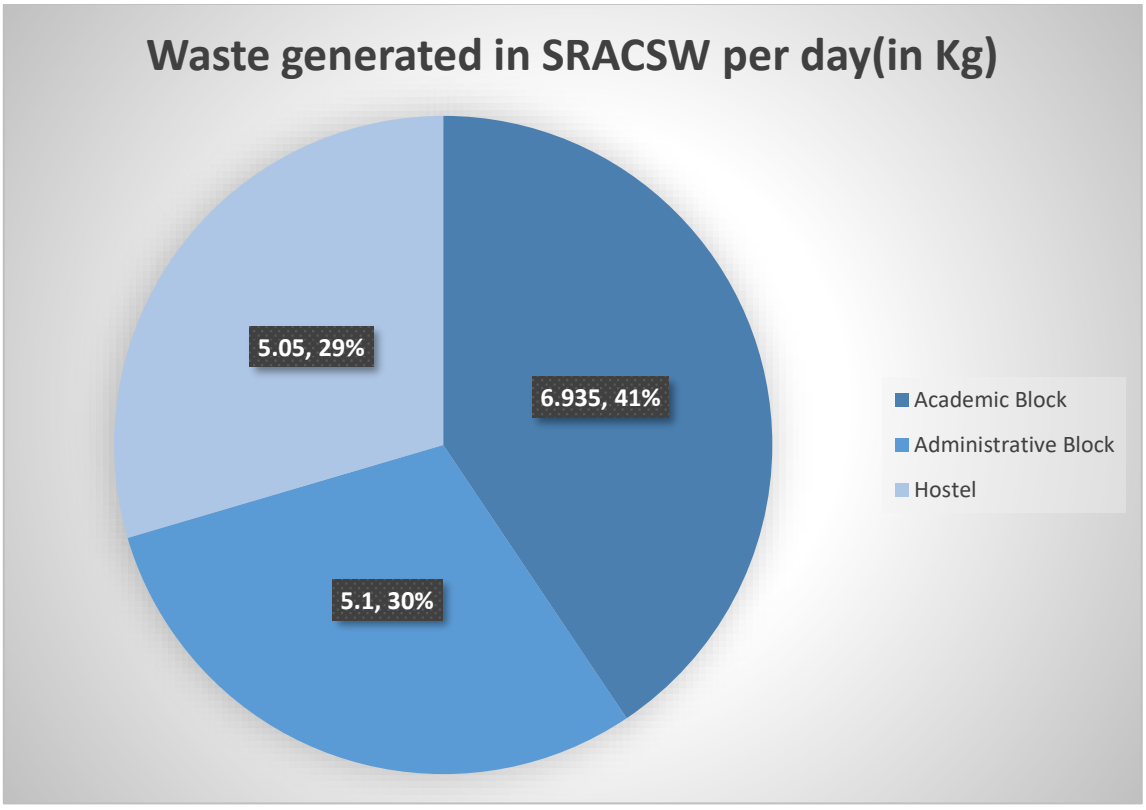


Fig. 3.1. Pie-chart distribution of the waste generated by different departments of the academic block.



*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

Fig. 3.2. Pie-chart distribution of the total waste generated SRCASW. This includes the Academic block, Administration building and Hostels.

3.2.2. Results and Discussion:

The waste is condoned to the municipal body which is dumped at the landfill site as solid waste. Out of the total waste, e-waste generated by the college is 5.2 kg/day average. More than 99 % of the paper waste is sent to a recycling unit. Moreover, >99 % of wet waste generated in the college is recycled through composting. ~1.0 kg/day (5 kgs/month) of paper waste is condoned to an NGO; 9.9 kgs (~50 kgs/month) of wet and food waste generated by the hostel mess and different blocks are used in the composting units of the college. 1.4 kgs of wet waste form the part of sewage waste. Out of the total waste of the college, 8,950 kgs/day waste is given away to the MCD vans.

4. Calculating Potential GHG sinks

4.1. Tree Cover

The approximate number of trees in the college is 400, and its almost the same from the previous years. On average one tree sequesters about 14 kgs of CO_2 per year. This number is approximately the same as last year.

Total CO_2 sequestered by tree cover = **-5,600 kg CO_2/year**

4.2. Composting

The total wet waste generated by the college for 2021-2022 was ~97 kgs/day. The CO_2 sequestration factor (SF) for wet waste utilized in preparing compost is -0.103 kgCO_2/kg wet waste

Total CO_2 consumption in the composting per year = **-1.0 kg CO_2/year**

4.3. An alternative source of Energy- Solar Panels

Each solar panel which is a residential unit produces 9 kWh. In a year it produces 10,000 kWh. The CO_2 sequestration factor (SF) for 1 kWh electricity production is -0.383 kgCO_2e.

Hence, total CO_2 sequestration by solar panels = **-3,830 kgCO_2/year**

Total GHG sink of SRCASW = -9,507.3 kgCO_2/year

5. Net GHG emission of SRCASW

The net annual GHG emission of the college is reported as follows:

5.1. Net kgCO_2 emission for the period 2020-2021 is calculated as:

KgCO_2 eq = (kgCO_2 eq from transportation + kgCO_2 eq from electricity)-GHG sink

~32930.4 kg CO_2-9507.3 kg CO_2 = **23423.1 kgCO_2/year**

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

6. Future strategies and suggestions for making SRCASW carbon-neutral

SRCASW is committed to becoming carbon neutral by gradually reducing the CO_2 footprint of the college. It is aimed at reducing its dependencies on fossil fuels and replacing them with alternative sources of green energy. The action is taken in the following ways: 1) by educating and building awareness through students on sustainable environment, 2) by promoting and motivating travelling by public transport, 3) by planting more trees by conducting plantation drives and tree adaptation drives, 6) promoting the use of non-plastic bags, utensils etc. and 7) maintaining an eco-club that conducts activities on the environment through different platforms and in different ways.

In addition, SRCASW has been cultivating sustainable practices and maintaining green infrastructures by installing solar panels, enhancing green cover, maintaining water harvesting units, composting pits, organic manure, and mushroom cultivation. It is further working towards increasing the number of solar panels in the college, which will replace grid electricity. The college has a massive green cover that contains around 400 trees and several herbs of different species and varieties. This includes ornamental trees, fruit trees, timber trees and several local varieties. The herbal varieties include several medicinal plants and herbs. The list is given below, table 6.1. The college has been acknowledged and awarded with several awards, that speak about its practices to build a sustainable environment. The college received the *Green Award* in 2017. On January 31 2022, a visit conducted by the officials from the Mahatma Gandhi National Council of Rural Education (MGNCRE), Ministry of Education, Government of India assessed the institute on five parameters under the Swachhta Action Plan project. These were: 1) Sanitation and hygiene, 2) Water management, 3) Energy management, 4) Solid waste management, and 5) green cover. The college was recognized for carrying out the *'largest plantation drive*' in higher educational institutes across the northern zone. In addition, the college was recognized for its holistic approach toward spreading awareness, influencing and sensitizing various stakeholders on cleanliness, resource management, energy-efficient practices, and promoting environmentally sustainable practices. It was awarded the *Green District Champion* in the east district of Delhi and *Best Sustainable Campus* awards in Delhi.

Table 6.1. List of categories of different species of plants on the campus.

S.No	Scientific name (genus_species)	Common name
	FRUIT TREES	
1	Amla (आंवला)	*Phyllanthus emblica*
2	Bael (बेल)	*Aegle marmelos*
3	Banana (के ला)	*Musa acuminate*
4	Ber (बेर)	*Ziziphus mauritiana*
5	Black Plum (जामुन)	*Syzygium cumini*
6	Carambola (कमरख)	*Averrhoa carambola*
7	Fig (अंजीर)	*Ficus carica*
8	Guava (अमरूद)	*Psidium guajava*

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

9	Mango (आम)	*Mangifera indica*
10	Orange (संतरा)	*Citrus aurantium*
11	Papaya (पपीता)	*Carica papaya*
12	Pomegranate (अनार)	*Punica granatum*
13	Pomelo (चकोतरा)	*Citrus maxima*
14	Sapota (चीकू)	*Manilkara zapota*
15	Shahtoot (शहतूत)	*Morus alba*
16	Sweet Lemon (मौसंबी)	*Citrus limetta*
17	ORNAMENTAL TREES/PLANTS	
18	Amaltas (अमलतास)	*Cassia fistula*
19	Araucaria (क्रिसमस ट्री)	*Araucaria columnaris*
20	Ashoka (अशोक)	*Polyalthia longibolia*
21	Banyan (वटवक्षृ)	*Ficus Benghalensis*
22	Bamboo (बांस)	*Bambusa Vulgaris*
23	Bauhinia (आर्कि ड)	*Bauhinia tomentosa*
24	Bottle Brush (बोतल ब्रश)	*Callistemon*
25	Bottle Palm (बोतल पाम)	*Hyophorbe lagenicaulis*
26	Butter Fly Palm (एररका पाम)	*Dypsis lutescens*
27	Champa (चम्पा)	*Magnoliaceae champaca*
28	Chapman (ओक)	*Quercus chapmanii*
29	Drumstick (सहजन)	*Moringa oleifera*
30	European Fan Palm (खजरू)	*Chamaerops humilis*
31	Gulmohar (गुलमोहर)	*Delonix regia*
32	Kadam (कदम्ब)	*Neolamarckia cadamba*
33	Neem (नीम)	*Azadirachta indica*
34	Peepal (पीपल)	*Ficus religiosa*
35	Philippine Fig (अंजीर)	*Ficus pseudopalma*
36	Sago Palm (साइकस पाम)	*Cycas revoluta*
37	Shisham (शीशम)	*Dalbergia sissoo*
	HERBS AND SHRUBS	
38	Alstonia (सप्तपर्ि)	*Alstonia scholaris*
39	Bougainvillea (बोगनवेसलया)	*Bougainvillea glabra*
40	Chandani (चांदनी)	*Tabernaemontana divaricata*
41	Croton (ि◌ोटन)	*Codiaeum variegatum*
42	Curry Patta (कडिपत्ता)	*Murraya koenigii*
43	Cycas Palm (साइकस पाम)	*Cycas revoluta*
44	Dracena (ड्रससना)	*Dracaena reflexa*

*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.

45	Fish Tail (फ़िशटेल ताड़)	*Caryota urens*
46	Furcraea (फुकेररया)	*Furcraea foetida*
47	Fycas Star Light (फाइकस स्टार लाइट)	*Ficus benjamina*
48	Golden Bottle Brush (गोल्डन बॉटल ब्रश)	*Melaleuca bracteata*
49	Hamelia (हमेसलया)	*Hamelia patens*
50	Harsingar हरससंगार (पाररजात)	*Nyctanthes arbortristis*
51	Hibiscus (गुड़हल)	*Hibiscus rosa-sinensis*
52	Jamican Sago (जमीकन सैगो)	*Zamia furfuracea*
53	Jasmine (चमेली)	*Jasminum aureum*
54	Kachnar (कचनार)	*Bauhinia variegate*
55	Kochia (कोचिया)	*Kochia scoparia*
56	Lemon Grass (लेमनग्रास or गंधत्रिण)	*Cymbopogon citratus*
57	Money Plant (मनी पलांट)	*Epipremnum aureum*
58	Phycus Panda (फाइकस पांिा)	*Ficus retusa*
59	Sago Palm (सैगो पाम)	*Gleditsia triacanthos*
60	Syngonium (ससंगोननयम)	*Syngonium podophyllum*
61	Tecoma (ट्रम्पेट बुश)	*Tecoma stans*

SRCASW strongly adheres to its goal to become a *carbon-neutral* campus. Figure 6.1. shows different potential areas where SRCASW is working to reduce and minimize its carbon footprint, and ultimately become a carbon-neutral campus.

The strategy is by implementing the step-wise-step process of commitment, counting and analysis, action, reduction, offset, evaluation, and repeating the whole process.

Commitment, towards becoming carbon-neutral, and achieving carbon-neutral goals.

Counting and Analysis, of the total resource consumption by compiling an inventory using a GHGs calculator, and emission factors.

Action, in starting to work towards GHG neutrality.

Reduction, by focusing on limiting energy usage in the form of, transportation, and electricity, and minimizing waste generation.

Offsetting, by neutralizing the volume of GHGs through funding projects supporting solar panel installation, biogas plants, and rainwater harvesting.

Evaluation and repeating, of the results, and targets, and compiling the list of suggestions, and improvements.

*Note: CO_2 emission in the form of biogas or CH_4 oxidation is not counted in GHG inventories.

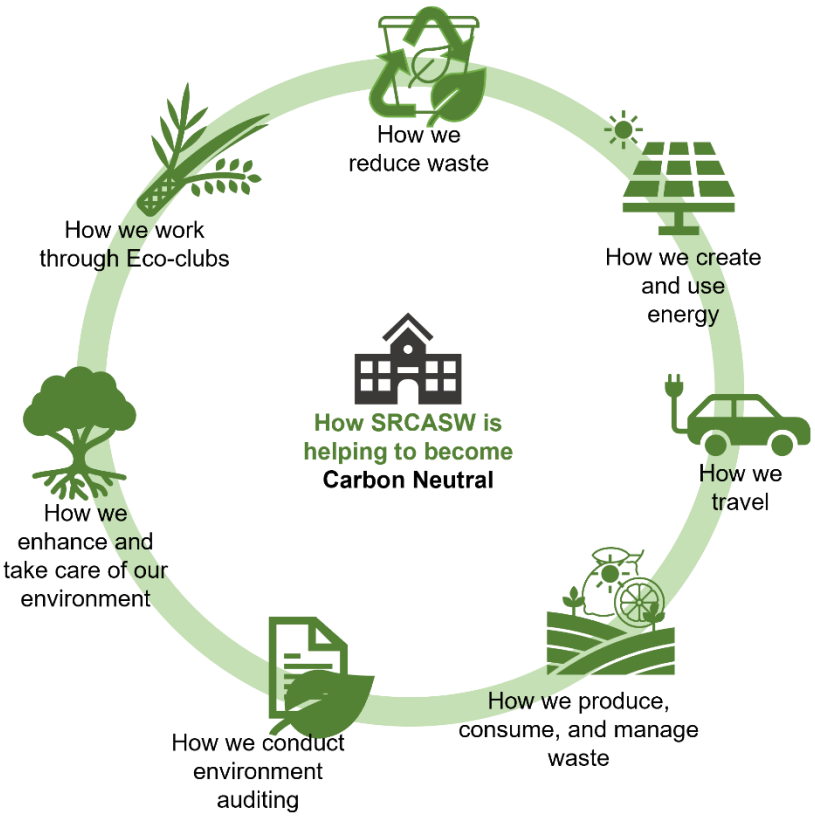


Fig. 6.1. Different areas where SRCASW is working to become carbon-neutral.

Thus, it can be concluded that all the indicators of the environmental audit report were properly studied and information about the indicators was collected, analyzed and followed with the conclusions, recommendations and solutions.

6. Resources

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*Note: CO2 emission in the form of biogas or CH4 oxidation is not counted in GHG inventories.